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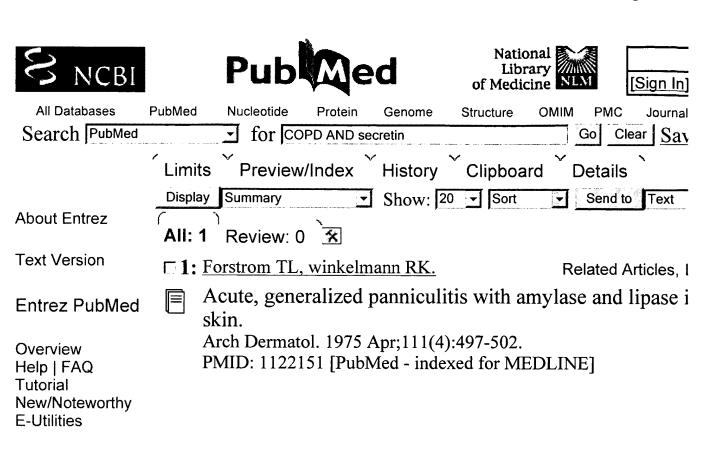
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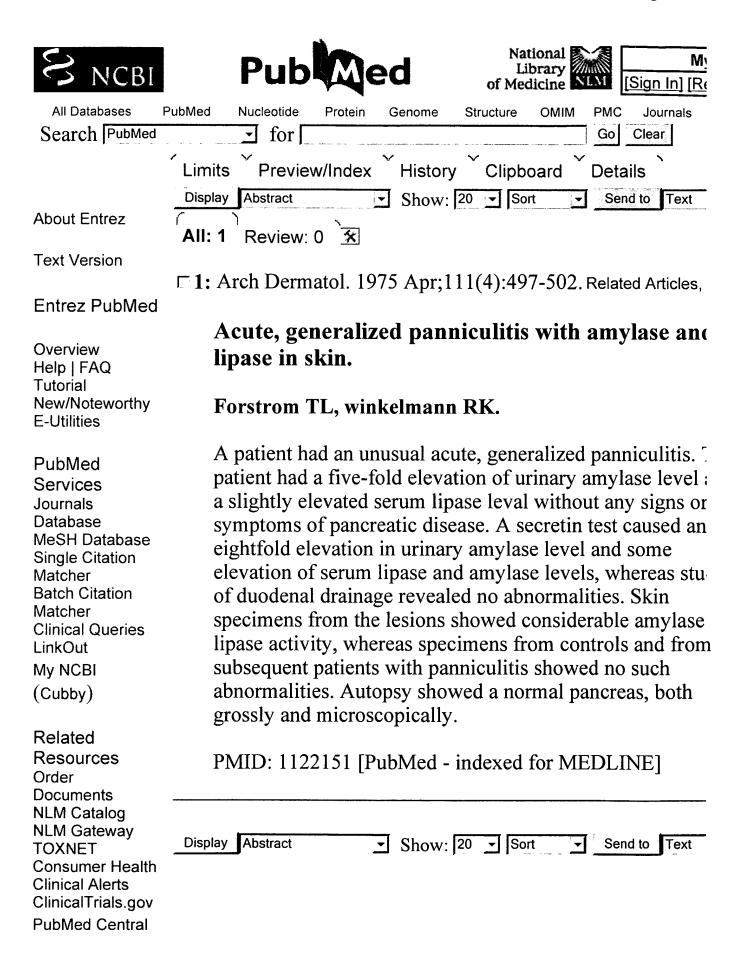
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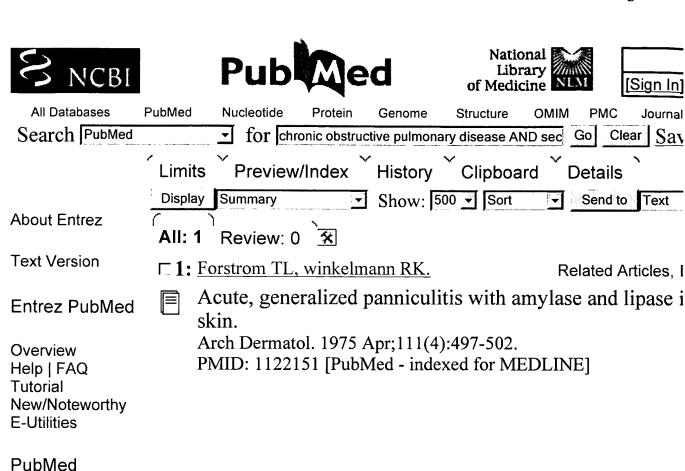


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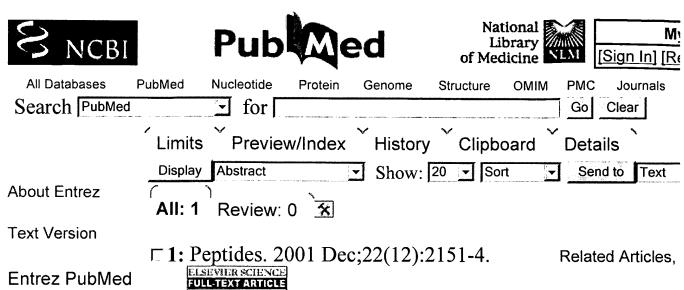
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Pituitary adenylate cyclase-activating peptide inhibits neutrophil chemotaxis.

Kinhult J, Uddman R, Laan M, Linden A, Cardell LO

Allergy laboratory, Department of Otorhinolaryngology, Malmo University Hospital, Malmo, Sweden.

Pituitary adenylate cyclase-activating peptide 38 (PACAF is a neuropeptide that displays several biological effects o interest in the context of airway diseases such as asthma a chronic obstructive pulmonary disease. These effects incli inhibition of airway and vascular smooth muscle tone as v as modulation of inflammatory cell activity. However, litt known about the effect of PACAP on granulocytes. The present study was designed to investigate if PACAP and t closely related peptide vasoactive intestinal peptide (VIP) could affect neutrophil migration. A standard 48 well chemotaxis chamber was used to assess the effects of PAC on N-Formyl-L-methionyl-L-leucyl-L-phenylalanine (fM induced neutrophil chemotaxis and spontaneous random migration. PACAP 38 and VIP inhibited fMLP-induced human neutrophil chemotaxis. Furthermore, both peptides also exhibited a dose-related trend toward inhibiting the spontaneous, unstimulated migration of neutrophils. Since enhanced cell migration in cell chamber systems is report

to correlate with increased invasive properties in vivo, the presented inhibitory effects of PACAP 38 on neutrophil chemotaxis, supports the idea of an anti-inflammatory role PACAP. This together with the well documented bronchodilatory capacity of PACAP might indicate a role PACAP-agonists in future treatment of asthma and other inflammatory airway diseases.

PMID: 11786203 [PubMed - indexed for MEDLINE]

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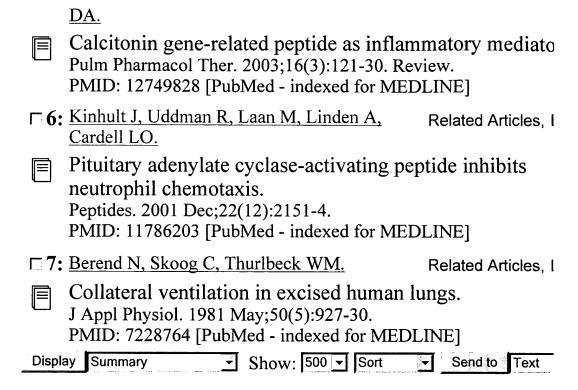








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Collateral ventilation in excised human lungs.

Berend N, Skoog C, Thurlbeck WM.

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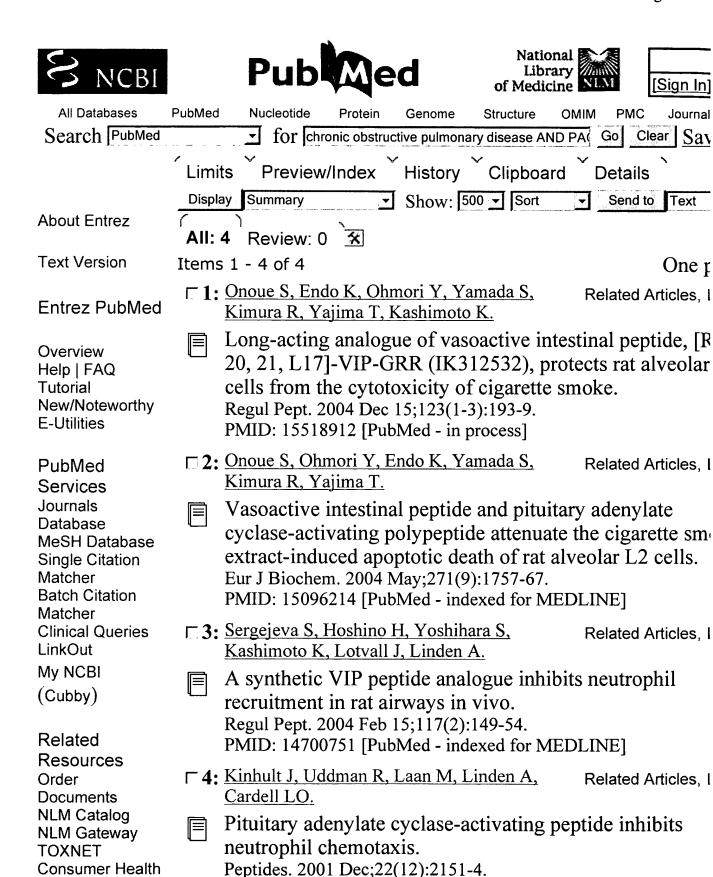
Pressure-volume (PV) curves and single-breath nitrogen (SBN) washout traces were obtained in 32 excised human lungs. Comparison of the volumes at the onset of phage I' the SBN traces (V phase IV) and the volumes at the inflection points (VIP) of the PV curves revealed V phase IV to be significantly larger than VIP. We postulated that V phase was caused by bulk airway closure and that the difference between V phase IV and VIP was due to collateral ventilation. To test this we correlated V phas IV -- VIP w age and emphysema grades of the lungs. Significant correlations were obtained, demonstrating that with increasing age and emphysema grade V phase IV -- VIP a increased. This is consistent with the documented evidence for decreased resistance to collateral ventilation with increasing age and emphysema. In addition, in a total of 8 lungs we demonstrated that with increasing age and emphysema there is an increasing incidence of total lack (sigmoid deviation in the PV curve.

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Elwyn DH, Kvetan V, Askanazi J.

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Growth hormone and pulmonary disease. Metabolic effects in patients receiving parentera nutrition.

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Suchner U, Rothkopf MM, Stanislaus G, Elwyn DH, Kvetan V, Askanazi J.

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Department of Medicine, East Orange, (NJ) Veterans Administration Medical Center 07019.

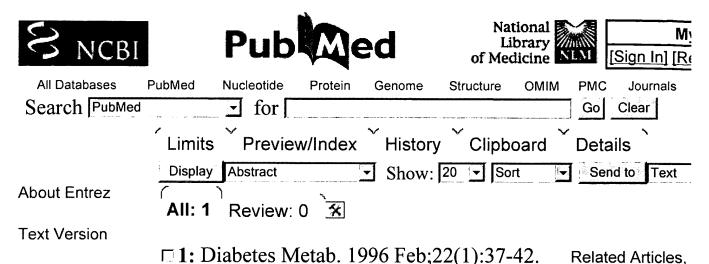
Six severely malnourished patients with chronic obstructi pulmonary disease were maintained for 3 days with infusi of 5% dextrose in water followed by 12 days of eucaloric total parenteral nutrition. On days 8 through 11, they rece 30 micrograms/d of growth hormone and twice this amou on days 11 through 15. Growth hormone had no significal effects on the plasma concentration of glucose, cortisol, o glucagon but caused a 50% increase in insulin and a 250% increase in somatomedin C concentrations. A positive nitrogen balance of 2 g/d due to growth hormone was probably mediated by insulin. Growth hormone-induced increases in energy expenditure and fat oxidation and decrease in glucose oxidation cannot be accounted for by insulin. The ability of growth hormone to improve nitroge balance may be particularly important for malnourished

patients with chronic obstructive pulmonary disease who, because of their pulmonary insufficiency, are intolerant of excess nutrients.

PMID: 2112905 [PubMed - indexed for MEDLINE]

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Impaired glucose tolerance in patients with chro hypoxic pulmonary disease.

Hjalmarsen A, Aasebo U, Birkeland K, Sager G, Jordo

Department of Pulmonary Medicine, University Hospital Tromso, Norway.

This study investigated glucose metabolism and glucosemediated hormone responses in patients with chronic respiratory hypoxaemia. Glucose as well as insulin, gluca adrenaline, cortisol and growth hormone (GH) were meas before and at 30, 60 and 120 min during an oral glucosetolerance test. The following chronic obstructive pulmona disease (COPD) patients were studied: 10 normoxaemic (mean paO2 10.9 +/- 0.4 kPa), 10 hypoxaemic (mean paO 7.6 +/- 0.2 kPa before, and 10.6 +/- 0.4 after 24-h oxygentherapy, and 6 hypoxaemic patients on long-term oxygen therapy (LTOT) (mean paO2 10.9 +/- 0.7 kPa bef and 7.1 +/- 0.3 after 4 h with less than 0.5 litre oxygen per minute). The hypoxaemic patients were tested both with a without (or reduced) oxygen therapy. Twenty healthy sexand age-matched subjects served as controls. Plasma gluc at 120 min was significantly higher in LTOT patients than controls (p < 0.01), normoxaemic patients (p < 0.01) or hypoxaemic patients (p < 0.01). The areas under the curve

plasma glucose and insulin were significantly higher in bo the LTOT and hypoxaemic groups compared to controls (0.01 and 0.05, respectively). Glucose values for normoxae COPD patients were similar to those for controls. Glucago adrenaline, cortisol and GH levels did not differ significar between the groups. A 4-h low-dose or oxygen-free interv in the LTOT group or 24 h of oxygen supplementation in hypoxaemic group did not affect glucose and hormone lev significantly. It is concluded that severely hypoxaemic CO patients have altered glucose metabolism which cannot be readily explained by changes in gluco-regulatory hormonic short-term alterations in oxygenation.

PMID: 8697294 [PubMed - indexed for MEDLINE]

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Impaired glucose tolerance in patients with chro hypoxic pulmonary disease.

Hjalmarsen A, Aasebo U, Birkeland K, Sager G, Jordo

Department of Pulmonary Medicine, University Hospital Tromso, Norway.

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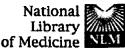
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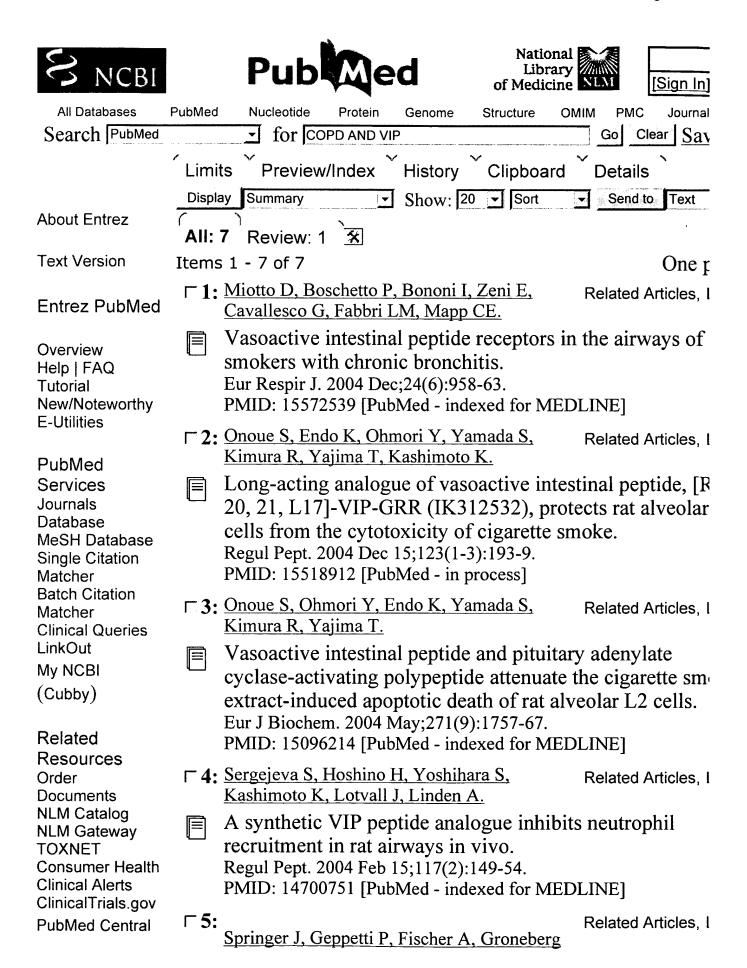
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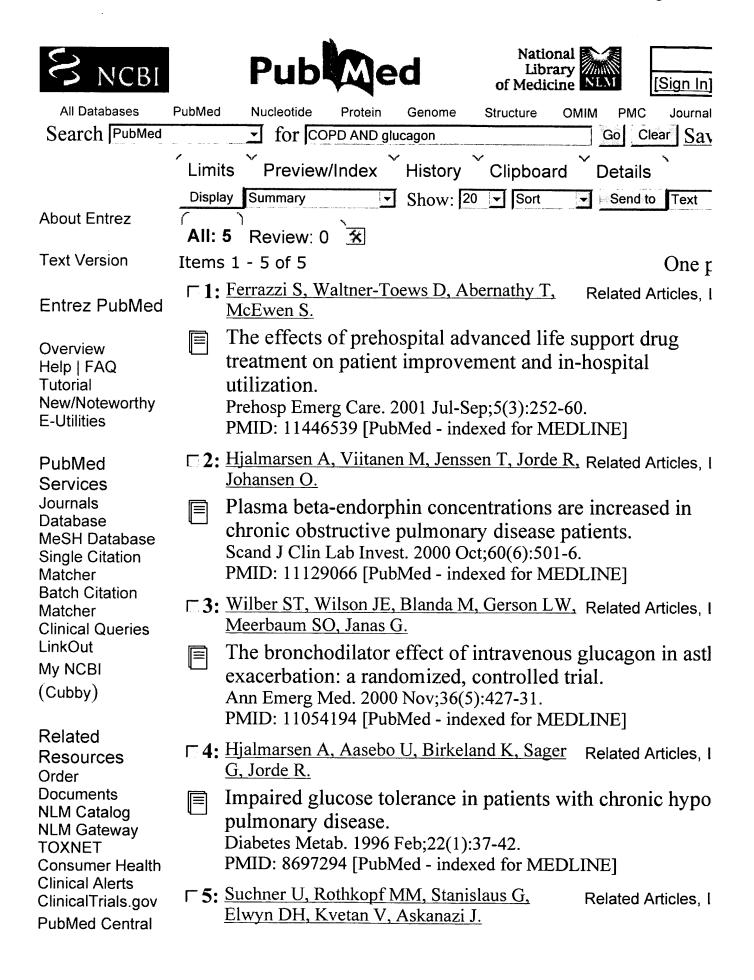




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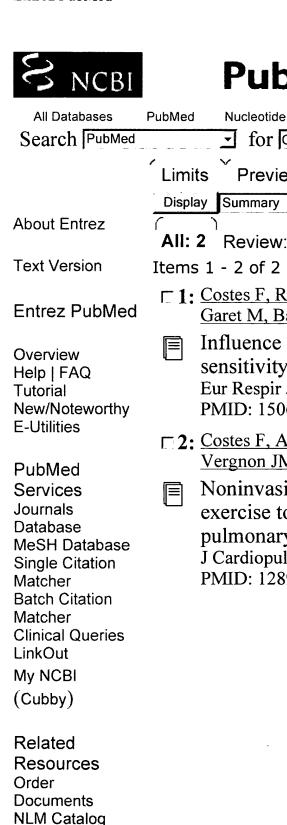
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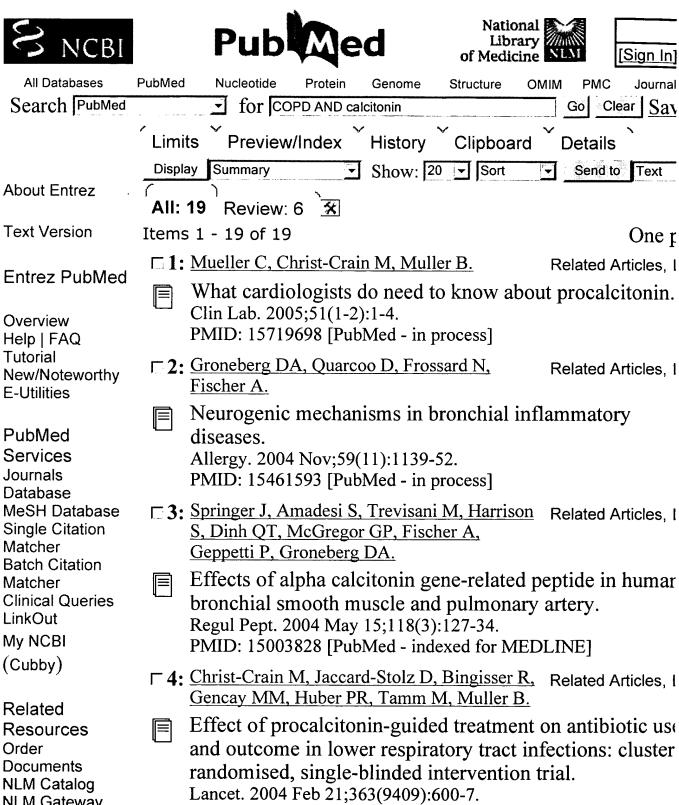
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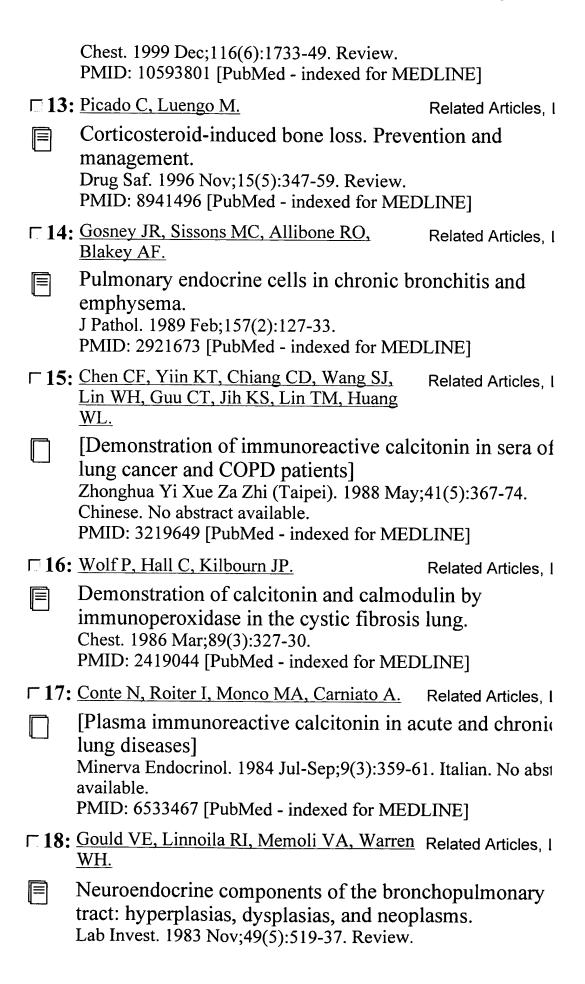
[Changes of calcitonin gene-related peptide content in induced sputum from patients with COPD and asthma] Zhonghua Jie He Hu Xi Za Zhi. 1999 Sep;22(9):558-61. Chir

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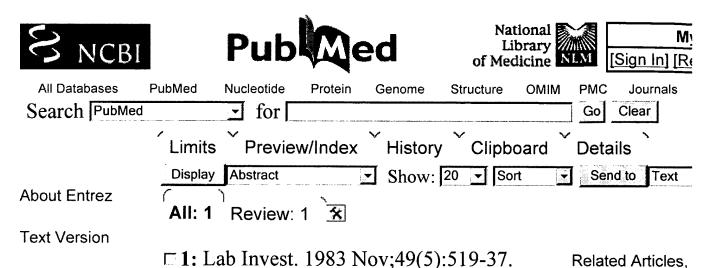
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Neuroendocrine components of the bronchopulmonary tract: hyperplasias, dysplasi and neoplasms.

Gould VE, Linnoila RI, Memoli VA, Warren WH.

The dispersed neuroendocrine (NE) system is represented the bronchopulmonary tract by the solitary neuroendocrin cells and the neuroepithelial bodies (NEBs). Immunohistochemically, neuron-specific enolase, seroton bombesin, and calcitonin are demonstrable in both components, whereas leu-enkephalin is demonstrable only solitary NE cells. The precise function of and interplay between these two components under physiologic and pathologic conditions are not entirely clear. Current indications are that NEBs act as intrapulmonary chemoreceptors sensitive to hypoxia and hypercapnia, whereas solitary NE cells may have a paracrine, regulator function. Even less clear is the possible role of solitary NI cells and NEBs in the processes associated with intrauteri and neonatal pulmonary growth and maturation. Various experimental manipulations have resulted in proliferation solitary NE cells and NEBs. Of particular interest is the apparently selective proliferative effect on NEBs shown b several nitroso compounds. Diethylnitrosamine administration to hamsters for several weeks results in an

increase in the number of NEBs and an increase in the number of cells per NEB. These hyperplastic NEBs expre the same immunoreactive hormones as their normal counterparts. However, when NEB cells from diethylnitrosamine-treated hamsters are cultured in vitro a notable proportion of the resulting endocrine cells express ACTH immunoreactivity. Interestingly, the neoplasms the eventually develop in these hamsters are not comprised of cells. Studies on human bronchi from specimens resected various types of neoplasms and for bronchiectasis with an without associated chronic obstructive pulmonary disease have revealed frequent hyperplasias of solitary NE cells a NEBs. In about 10% of the specimens, dysplastic aggrega of solitary NE cells and NEBs are found. Unexpected "microcarcinoids" and tumorlets are also seen. The mildly and moderately hyperplastic solitary NE cells and NEBs t to express the hormones indigenous to the bronchi, where in the severely hyperplastic and dysplastic cells, "ectopic" hormones may also be expressed; the latter include predominantly ACTH and vasoactive intestinal polypeptic A distinct hyperplasia of NEBs has been found in the lung from individuals living at altitudes ranging from 3400 to 4 meters; these changes may represent an adaptive response chronic hypoxia parallel to the hyperplastic carotid paraganglia that may be found in the same type of popular Bronchopulmonary NE neoplasms comprise a spectrum tl includes typical carcinoids, well-differentiated NE carcinomas, and NE carcinomas of intermediate and smal cell types. Typical carcinoids are predominantly central, display little if any pleomorphism, are richly granulated b electron microscopy, and by immunohistochemistry expre predominantly, although not exclusively, hormones indigenous to their site of origin.(ABSTRACT TRUNCATED AT 400 WORDS)

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Chronic glucocorticoid therapy-induced osteoporosis in patients with obstructive lung disease.

Goldstein MF, Fallon JJ Jr, Harning R.

Asthma Center, Philadelphia, PA, USA.

Long-term glucocorticoid (GC) therapy has been instrume in decreasing morbidity and mortality in a variety of chrol inflammatory diseases, including persistent asthma. Long term GC therapy is also widely prescribed for COPD. One the important and often unrecognized side effects of chroi GC therapy is secondary osteoporosis. The risk of GCinduced bone loss is roughly correlated with daily dose, duration, and total cumulative lifetime dose of GC treatme Oral prednisone increases the risk of bone loss and fractui High doses of inhaled GCs may also increase the risk of osteopenia/osteoporosis, but the risk appears to be less that that associated with oral GCs. Hormone replacement thera oral and parenteral bisphosphonates, supplemental calciur and vitamin D, calcitonin, and fluoride compounds have t used, experimentally, in the management of GC-induced 1 loss. Asthma and COPD specialists are key prescribers of and inhaled steroids and are likely to encounter patients w significant bone loss. Despite known risk factors and the availability of reliable diagnostic tools to recognize bone the opportunity to slow, reverse, and treat bone loss is often missed. We present a review of the current literature regarding the incidence, treatment, and prevention of osteopenia/osteoporosis secondary to chronic GC therapy adult asthma and COPD patients. Guidelines are presented regarding the identification of patients at risk for developi GC-induced secondary bone loss, and therapeutic alternat are discussed.

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Neurogenic inflammation in the airways.

Barnes PJ.

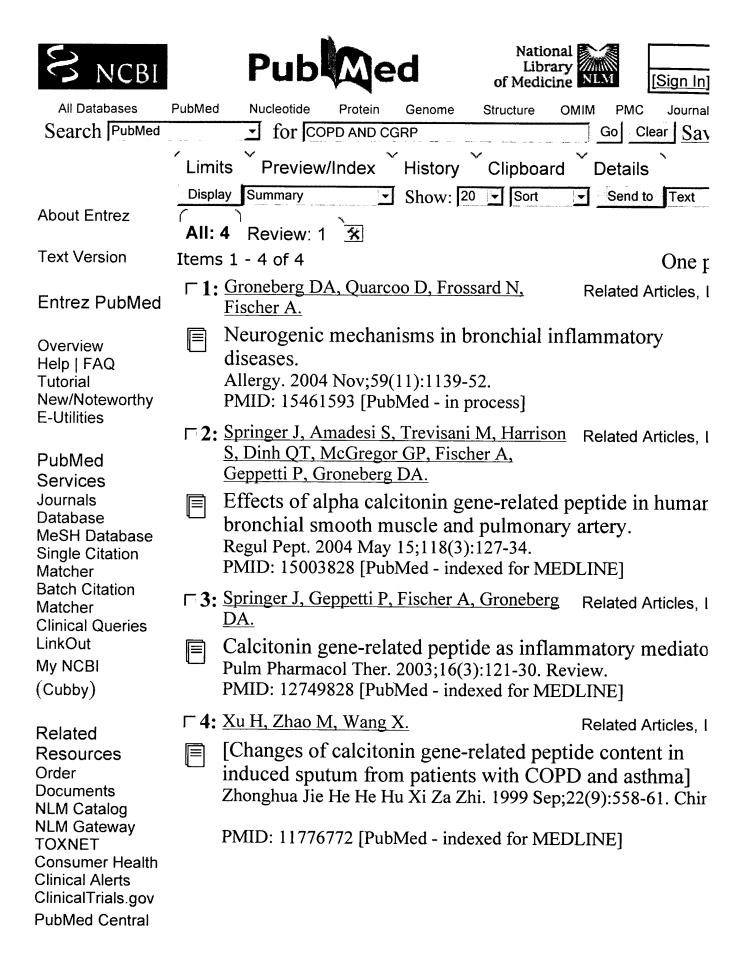
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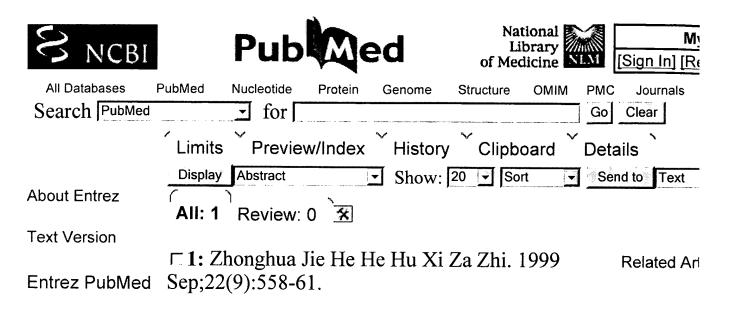
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Release of neuropeptides, including tachykinins and calcitonin gene-related peptide, from sensory nerves via a axon or local reflex may have inflammatory effects in the airways. This neurogenic inflammation may be initiated b activation of sensory nerves by inflammatory mediators a irritants. Neurogenic inflammation is well developed in rodents and may contribute to the inflammatory response allergens, infections and irritants in animal models. Howe the role of neurogenic inflammation in airway inflammato diseases, such as asthma and COPD is still uncertain as th is little direct evidence for the involvement of sensory neuropeptides in human airways. Initial clinical studies us strategies to block neurogenic inflammation have not been encouraging, but it is important to study more severe form airway disease in more prolonged studies in the future to explore the role of neurogenic inflammation.





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OBJECTIVE: To explore the role of sensory neuropeptide calcitonin gene-related peptide (CGRP) in the pathogenes chronic airway inflammatory diseases COPD and bronchi asthma. METHODS: Patients with COPD (n = 19), bronc asthma (n = 14), all were in stable stage and 10 normal volunteers were examined. After hypertonic saline inhalat challenge in all subjects, CGRP-LI concentration in the induced sputum was measured by radioimmunoassay. Cellular content was assayed by microscopic analysis, the relation between CGRP-LI level and FEV1 value was calculated by linear regression. RESULTS: The sputum CGRP concentrations in patients with COPD and patients with asthma were (15.97 + /- 2.15) ng/L, (18.79 + /- 3.91)ng/L, respectively, both were significantly higher than the

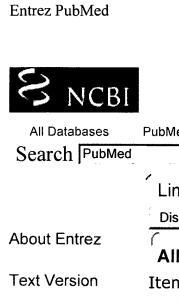
in normal volunteers (2.36 +/- 0.35) ng/L. Moreover, CGI concentrations in induced sputum in each disease group w correlated with the degree of airflow obstruction, r = -0.5and -0.61, respectively (P < 0.05). The percentage of neutrophil cell count (64.9 +/- 2.9)% was significantly his in patients with COPD (P < 0.01), while the percentage of eosinophil cell count (5.8 +/- 0.5)% was increased in patie with asthma (P < 0.01). CONCLUSIONS: The data sugge that CGRP release may participate in the chronic inflammation of patients with COPD and bronchial asthm

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T4: Bikle DD, Halloran B, Fong L, Steinbach L, Related Articles, I Shellito J.

Elevated 1,25-dihydroxyvitamin D levels in patients with chronic obstructive pulmonary disease treated with prednisone.

J Clin Endocrinol Metab. 1993 Feb;76(2):456-61. PMID: 8432789 [PubMed - indexed for MEDLINE]

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Arch Intern Med. 1976 Nov;136(11):1249-53. PMID: 185973 [PubMed - indexed for MEDLINE]

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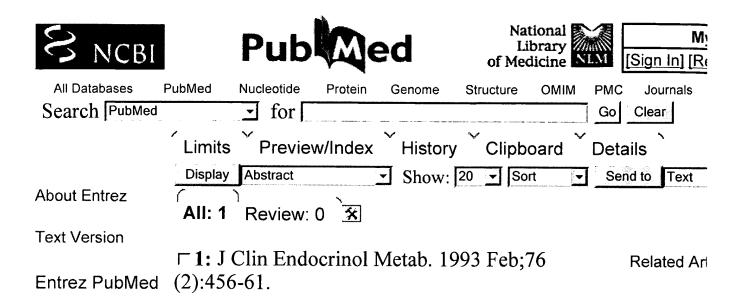
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Endocrine Unit, VA Medical Center, San Francisco, California.

Glucocorticoid administration is a well established cause. osteopenia. Mechanisms underlying the deleterious effect glucocorticoids on bone may include direct inhibition of t formation as well as indirect effects through changes in intestinal calcium absorption, renal calcium excretion, and levels of the calciotropic hormones. To further examine the potential role of the calciotropic hormones we measured serum levels of PTH and 1,25 dihydroxyvitamin D [1,25(2D], as well as serum and urine levels of calcium and vertebral bone density in patients with chronic obstructive pulmonary disease being managed with or without prednisone. Patients treated with prednisone had lower sp bone density (53 vs. 106 mg/cm3) and higher serum calci-(2.40 vs. 2.33 mmol/l), urine calcium (6.9 vs. 2.7 mmol/2 and 1,25(OH)2D levels (147 vs. 95 pmol/L). Compared to patients not treated with glucocorticoids. PTH levels also

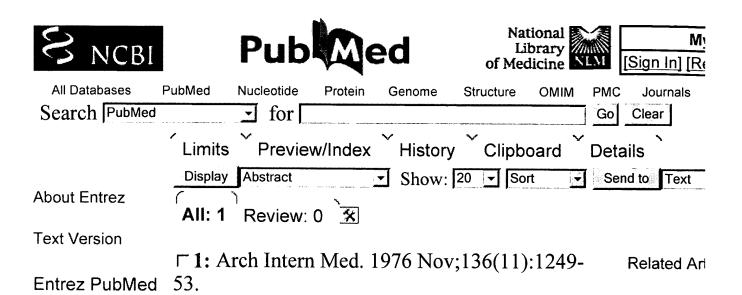
tended to be higher (33 vs. 26 microliters-eq/ml), but the difference was not significant. Serum and urine calcium levels correlated positively with 1,25(OH)2D levels, but r. of these measurements correlated with PTH levels. Our results suggest that prednisone treatment alters the regulat of 1,25(OH)2D production, and this may contribute to the loss of bone mineral induced by prednisone.

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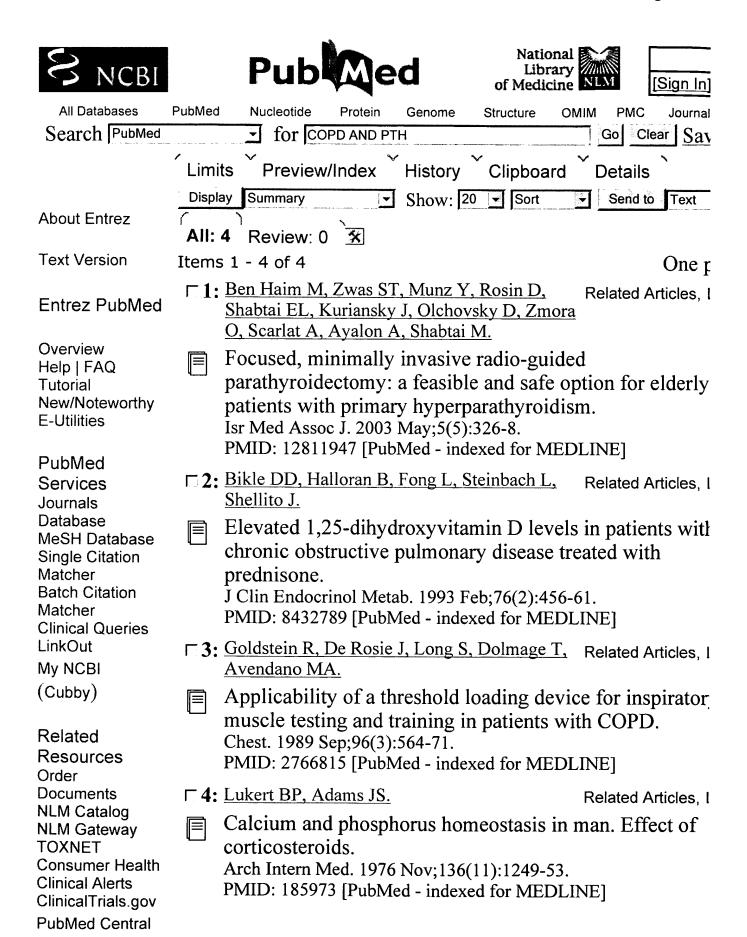
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Serum calcium and phosphorus levels, urinary excretion r of calcium, phosphorus, and cyclic adenosine monophosp (cAMP), and plasma parathyroid hormone (PTH) concentrations were determined in 11 normal subjects and nine patients maintained on long-term prednisone therapy chronic obstructive pulmonary disease. These same determinations were repeated in five of the prednisone-tre patients during the course of a seven-day calcium infusior Prior to the infusion, the prednisone-treated patients demonstrated significantly elevated serum levels of PTH less than .005) and increased rates of urinary phosphate at cAMP excreation (P less than .005) when compared with normal subjects. After initiation of calcium infusion, the previous elevations in all of these determinations decrease near normal levels. These data suggest that the effects of secondary hyperparathyroidism in patients maintained on long-term prednisone therapy may be overcome when calcium is administered intravenously.

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Applicability of a threshold loading device for inspiratory muscle testing and training in patien with COPD.

Goldstein R, De Rosie J, Long S, Dolmage T, Avendan MA.

Department of Medicine, University of Toronto, Ontario, Canada.

We evaluated application of a Pth device for testing inspiratory muscle endurance among patients with severe stable COPD. Endurance time in five patients was reproducible. Magnitude of variability was +/- 1.26 minut with a range of +/- 0.19 to +/- 2.28 minutes. Eleven inpati completed inspiratory muscle training twice daily for four weeks in addition to their usual program of respiratory rehabilitation. The mean age of our experimental cohort v 65 years; FEV1, 33 +/- 12 percent predicted; and Dsb, 42 7 percent predicted. Baseline measurements showed no significant differences in pulmonary function, exercise tolerance, inspiratory muscle strength or inspiratory musc endurance between control and study groups. Following training, the study group significantly improved inspirator muscle endurance as evidenced by an increase in enduran time while breathing against the same absolute external P

load used during baseline assessments. There were no associated changes in lung mechanics, muscle strength or exercise tolerance.

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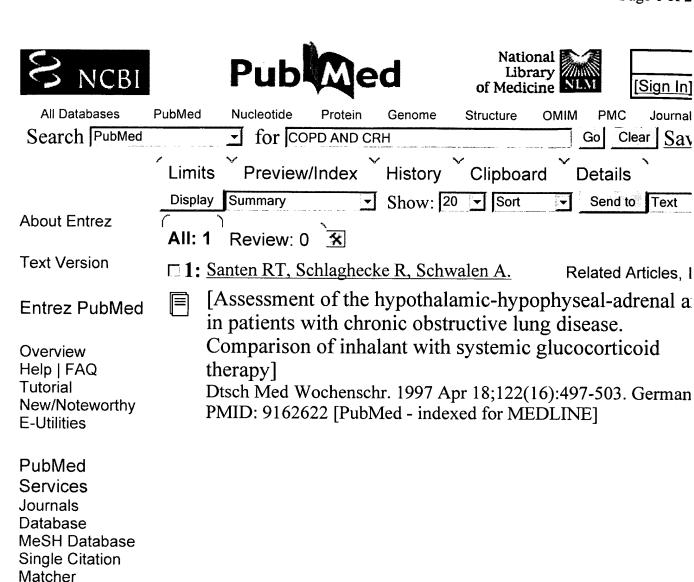
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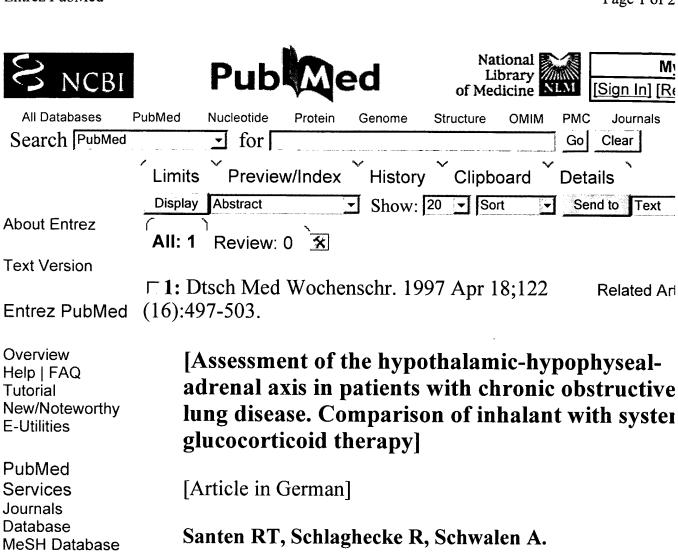
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Klinik fur Endokrinologie, Heinrich-Heine-Universitat Dusseldorf.

OBJECTIVE: The action of inhalation and systemic treatment of chronic obstructive pulmonary disease by suppressing the hypothalamo-hypophyseal-adrenal axis w compared in patients with chronic obstructive pulmonary disease (COPD). PATIENTS AND METHODS: Adrenocorticotropic hormone (ACTH) and cortisol

concentrations were evaluated after a corticotropin-releasi hormone (CRH)-test in 50 patients (aged 43 +/- 14 years) with chronic obstructive pulmonary disease (COPD)

receiving inhalant glucocorticoid treatment (IGC), 61 pati (aged 54 +/- 11 years) with COPD on systemic glucocorti treatment (SGC) and 50 healthy volunteers (32 +/- 4 years RESULTS: All 50 patients on IGC had normal CRH test

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results. 30 of 61 patients with SGC had decreased cortisol response (12 patients had no and 18 a reduced rise in cortisol). ACTH concentration was lower in patients on I(than in the control group (basal ACTH 15.6 pg/ml and 24 pg/ml, respectively; after stimulation 40.3 vs 54.4 pg/ml, respectively). But systemic glucocorticoid treatment clear caused suppression of basal (12.1 pg/ml) and stimulated (pg/ml) ACTH levels with correspondingly decreased cort levels (basal: 75.1 and 118.7 ng/ml [IGC], respectively, at after stimulation 128.5 and 225.9 ng/ml). CONCLUSION Patients with COPD on inhalant glucocorticoid treatment have a clearly lower risk of adrenal cortical insufficiency those on oral glucocorticoid treatment. But some suppress of ACTH secretion is demonstrable even in the former. Clinical significance of these findings seems unlikely. Development of adrenal cortical insufficiency need not be feared in patients treated with inhalant glucocorticoids.

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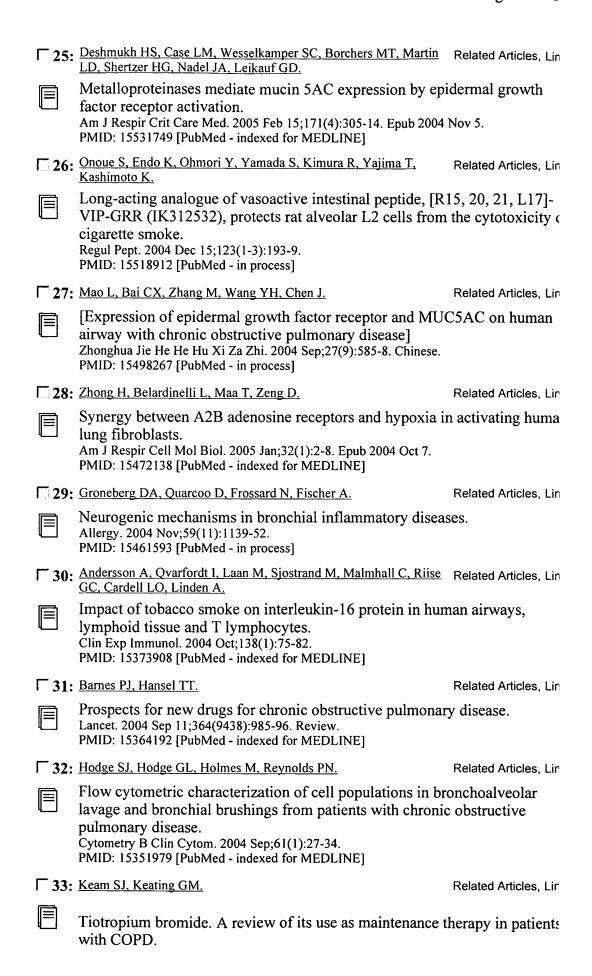
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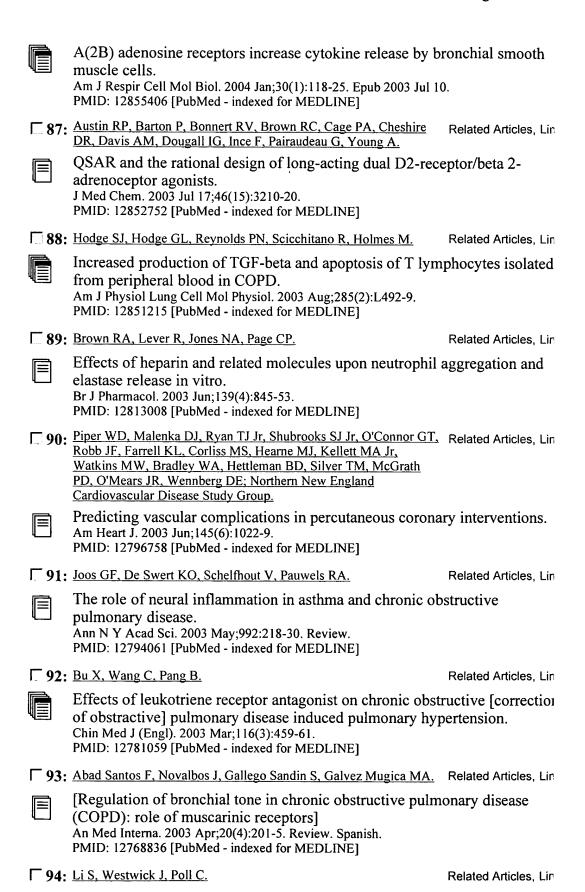
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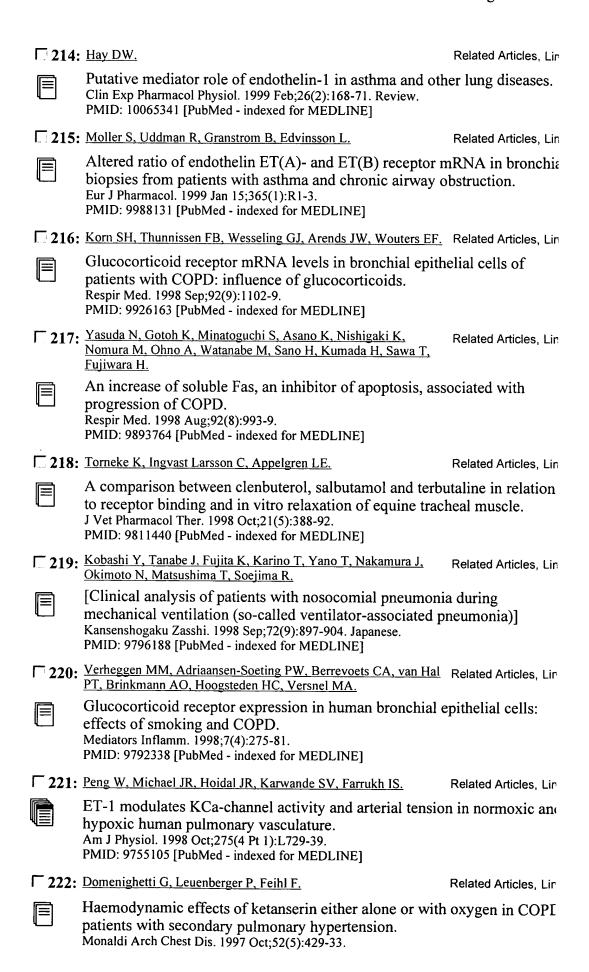
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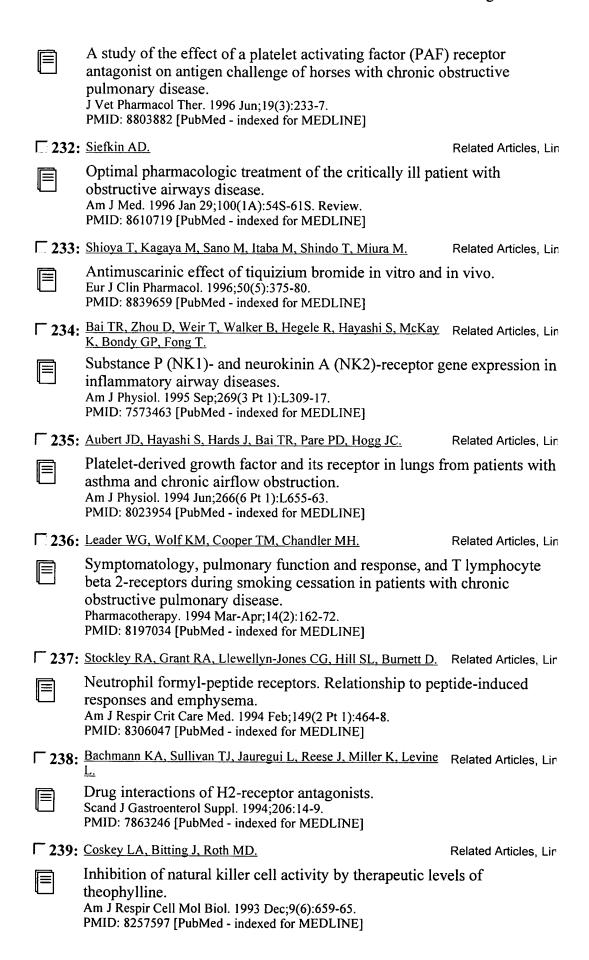
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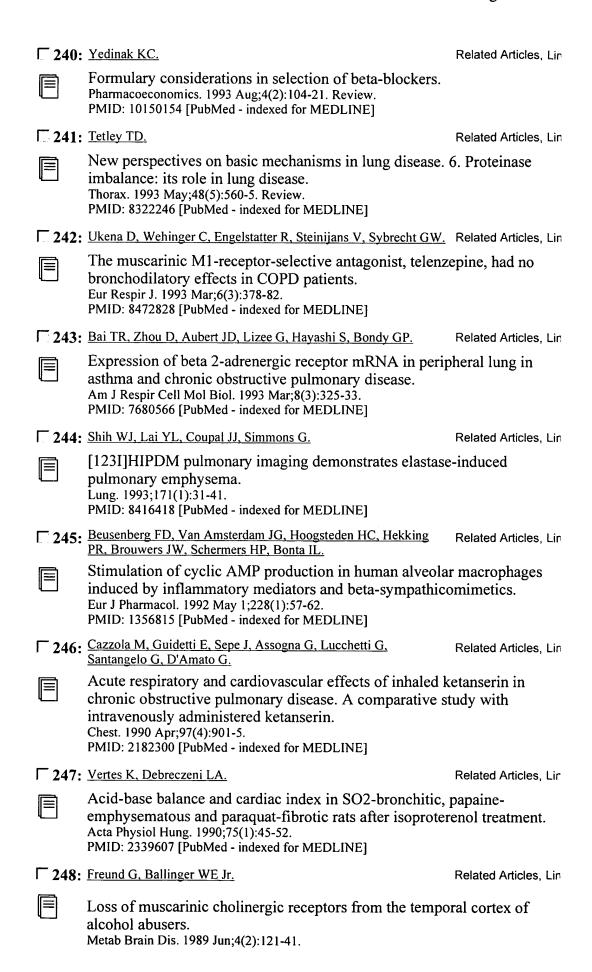
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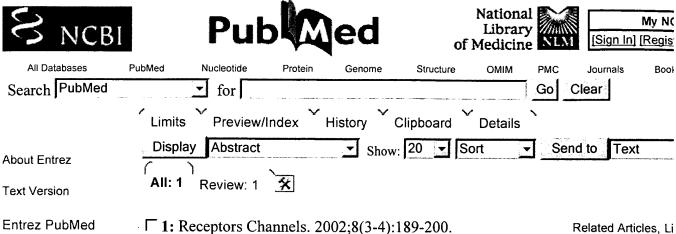
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Molecular pharmacology of the secretin receptor.

Dong M, Miller LJ.

Center for Basic Research in Digestive Diseases, Departments of Internal Medicine and Biochemistry/Molecular Biology, Mayo Clinic and Foundation Guggenheim 17, Mayo Clinic, Rochester, MN 55905, USA.

The secretin receptor was the first member of the Class II family of G proteir coupled receptors to be cloned. It is prototypic of this family in its structure, function, and regulation. The extended amino-terminal tail domain includes a series of six conserved Cys residues that contribute three intradomain disulfit bonds. This region of the receptor has been shown by mutagenesis and photo affinity labeling to be particularly important in secretin binding and stimulati of signaling activity. There is clear evidence for the direct interaction of the natural agonist peptide with this receptor domain. Mutagenesis has also identified important contributions of extracellular loop domains, although the specific roles remain unclear. This receptor is regulated by agonist-stimulated phosphorylation and internalization, with details dependent on the cellular environment.

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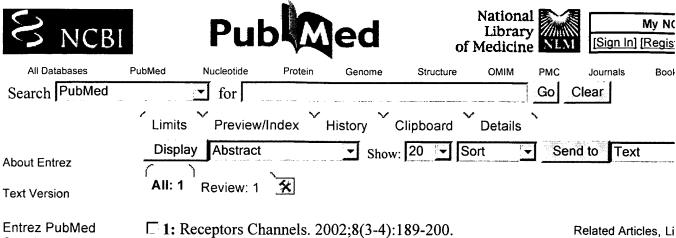
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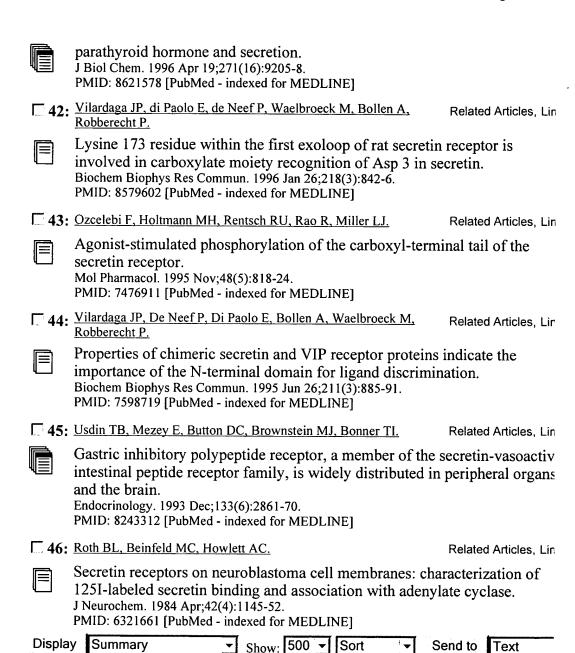
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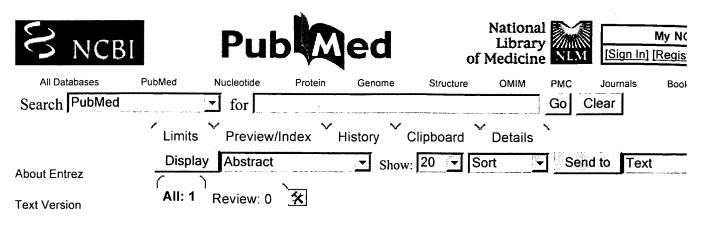
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Effect of introduction of an arginine 16 in VIP, PACAP and secretin on ligand affinity for the receptors.

Gourlet P, Vandermeers A, Vandermeers-Piret MC, De Neef P, Waelbroeck M, Robberecht P.

Department of Biochemistry and Nutrition, Faculty of Medicine, Universite Libre de Bruxelles, Belgium.

Rabbit secretin, which differs from all other mammalian secretins in having a Leu residue in position 6 (instead of Phe) and a basic residue (Arg) in positio 16, had a lower affinity than porcine secretion on recombinant rat secretin receptors but had a greater affinity than porcine secretin on recombinant rat VIP1 and PACAP I receptors. Synthetic [L6] porcine secretin had a reduced potency on secretin and VIP1 receptors whereas [R16] porcine secretin had a similar binding profile as rabbit secretin. Thus, an arginine residue in position 16 reduced 3-fold the affinity of secretin for secretin receptors but increased 30-fold its affinity for the VIP1 and PACAP I receptors. The introduction of arginine residue in position 16, instead of glutamine, in VIP and PACAP had similar effect: [R16] VIP and [R16] PACAP had 3- to 10-fold higher affinition than VIP and PACAP for VIP1 and PACAP I receptors, and 3-fold lower affinities for the secretin receptors. The three [R16] peptides also had a reduc potency on the chimeric receptor consisting of the N-terminal part of the secretin receptor grafted on the VIP1 receptor, and an enhanced potency on t chimeric receptor consisting of the N-terminal part of VIP1 receptor grafted the secretin receptor, indicating that position 16 of each ligand interacted wit the N-terminal extracellular domain of the receptors.

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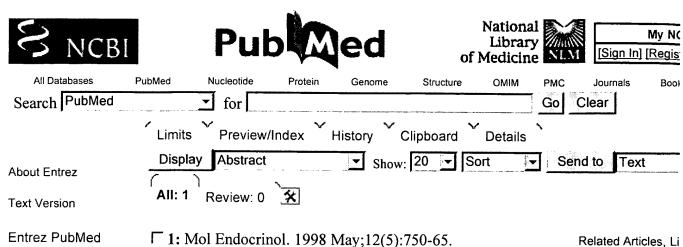
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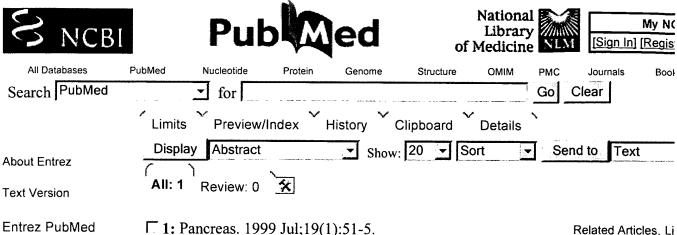
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Department of Biochemistry, Molecular Biology and Cell Biology, Northwestern University, Evanston, Illinois 60208, USA.

The hypothalamic peptide GH-releasing hormone (GHRH) stimulates the release of GH from the pituitary through binding and activation of the GHRIreceptor, which belongs to the family of G protein-coupled receptors. The objective of this study was to identify regions of the receptor critical for interaction with the ligand by expressing and analyzing truncated and chimer epitope-tagged GHRH receptors. Two truncated receptors, GHRHdeltaN, in which part of the N-terminal domain between the putative signal sequence ar the first transmembrane domain was deleted, and GHRHdeltaC, which was truncated downstream of the first intracellular loop, were generated. Both the receptors were deficient in ligand binding, indicating that neither the Nterminal extracellular domain (N terminus) nor the membrane-spanning domains with the associated extracellular loops (C terminus) are alone sufficient for interaction with GHRH. In subsequent studies, chimeric proteir between the receptors for GHRH and vasoactive intestinal peptide (VIP) or secretin were generated, using the predicted start of the first transmembrane domain as the junction for the exchange of the N terminus between receptors The chimeras having the N terminus of the GHRH receptor and the C termin of either the VIP or secretin receptor (GNVC and GNSC) did not bind GHRI or activate adenylate cyclase after GHRH treatment. The reciprocal chimeras having the N terminus of either the VIP or secretin receptors and the C terminus of the GHRH receptor (VNGC and SNGC) bound GHRH and stimulated cAMP accumulation after GHRH treatment. These results suggest that although the N-terminal extracellular domain is essential for ligand binding, the transmembrane domains and associated extracellular loop region of the GHRH receptor provide critical information necessary for specific interaction with GHRH.



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Related Resources Order Documents NLM Catalog NLM Gateway TOXNET Consumer Health Clinical Alerts ClinicalTrials.gov PubMed Central Properties of a recombinant human secretin receptor: a comparison with the rat and rabbit receptors.

Di Paolo E, De Neef P, Moguilevsky N, Petry H, Cnudde J, Bollen A, Waelbroeck M, Robberecht P.

Department of Biochemistry, Faculty of Medicine, Brussels, Belgium.

A secretin receptor was cloned from a commercial human pancreatic complementary DNA (cDNA) bank. The amino acid sequence deduced from the nucleotide sequence differed slightly from the three different sequences previously published, suggesting a genetic polymorphism of the human receptor. The binding properties of the receptor were evaluated by testing natural secretin, related peptides, and synthetic analogs or fragments on membranes of Chinese hamster ovary (CHO) cells expressing the receptor af transfection. The second-messenger coupling was evaluated by adenylate cyclase measurement. The human secretin receptor was compared with the ra and the rabbit receptors. In the three animals species, rat and human secretin were equipotent; rabbit secretin was equipotent on human and rabbit secretin receptors and less potent on the rat receptor. Similar data were obtained for tl [Arg16]-secretin analog. Deletion of histidine 1 and replacement of aspartate reduced the affinity of the peptides for the three receptors; however, the reduction was more pronounced on rat than on human and rabbit secretin receptors. Finally, the low affinity of the rat and human receptors for vasoactive intestinal peptide (VIP) was identical; the rabbit receptor, howeve had a 20-fold higher affinity. Thus the human secretin receptor shows properties of both rat and rabbit receptors. Evaluation of the properties of chimeric receptors will be useful to fit the ligand on the receptors.

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MEDICONF, NUTRACEUT, PCTGEN, PHAR, PHARMAML, PROUSDDR, PS, RDISCLOSURE,
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DESC Porcine
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LANGUAGE:
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AN
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       Method and means for the early detection and diagnosis of certain types
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IN
       Wolfsen, Ada R., Fountain Valley, CA, United States
       Odell, William D., Miraleste, CA, United States
PΑ
       Professional Staff Association of the Los Angeles County Harbor General
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Hospital, Torrance, CA, United States (U.S. corporation)
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       Receptors and membrane-associated proteins
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       Lal, Preeti G., Santa Clara, CA, UNITED STATES
TN
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Warren, Bridget A., Los Altos, CA, UNITED STATES
       Xu, Yuming, Mountain View, CA, UNITED STATES
       Duggan, Brendan M., Sunnyvale, CA, UNITED STATES
       Honchell, Cynthia D., San Carlos, CA, UNITED STATES
       Kallick, Deborah A., Atherton, CA, UNITED STATES
       Baughn, Mariah R., San Leandro, CA, UNITED STATES
       Tang, Y. Tom, San Jose, CA, UNITED STATES
       Yue, Henry, Sunnyvale, CA, UNITED STATES
       Bandman, Olga, Mountain View, CA, UNITED STATES
       Jones, Karen Anne, Essex, UNITED KINGDOM
       Becha, Shanya D., Castro Valley, CA, UNITED STATES
       Tran, Uyen K., San Jose, CA, UNITED STATES
       Au-Young, Janice K., Brisbane, UNITED KINGDOM
       Griffin, Jennifer A., Fremont, CA, UNITED STATES
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       Lee, Ernestie A., Castro Valley, CA, UNITED STATES
       Elliott, Vicki S., San Jose, CA, UNITED STATES
       Thangavelu, Kavitha, Mountain View, CA, UNITED STATES
       Ramkumar, Jayalaxmi, Fremont, CA, UNITED STATES
       Lu, Yan, Palo Alto, CA, UNITED STATES
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       ICS: C12Q001-68
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 4 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
L14
     DUPLICATE 1
AN
     2004:390080 BIOSIS
DN
     PREV200400394661
ΤI
              ***secretin***
                                ***receptor***
                                                   ligands in treatment of
     cystic fibrosis (CF) and ***chronic***
                                                   ***obstructive***
       ***pulmonary***
                           ***disease***
                                            (COPD).
AU
     Davis, Richard J. [Inventor, Reprint Author]; Page, Keith J. [Inventor]
CS
     Hertfordshire, UK
     ASSIGNEE: Pharmagene Laboratories Ltd., Hertfordshire, UK
     US 6780839 August 24, 2004
PT
     Official Gazette of the United States Patent and Trademark Office Patents,
SO
     (Aug 24 2004) Vol. 1285, No. 4. http://www.uspto.gov/web/menu/patdata.html
     . e-file.
     ISSN: 0098-1133 (ISSN print).
DT
     Patent
LA
     English
ED
     Entered STN: 6 Oct 2004
     Last Updated on STN: 6 Oct 2004
     ANSWER 5 OF 65 IFIPAT COPYRIGHT 2005 IFI on STN DUPLICATE 2
L14
AN
      10683998 IFIPAT; IFIUDB; IFICDB
               ***SECRETIN*** - ***RECEPTOR***
TI
                                                    LIGANDS IN TREATMENT OF
      CYSTIC FIBROSIS (CF) AND
                                ***CHRONIC***
                                                    ***OBSTRUCTIVE***
        ***PULMONARY***
                            ***DISEASE***
                                             (COPD)
      Davis Richard J (GB); Page Keith J (GB)
IN
      Pharmagene Laboratories Ltd GB (62535)
PΑ
ΡI
      US 2004191238
                     A1 20040930
ΑI
      US 2004-822677
                          20040413
RLI
      US 2001-897412
                          20010703 DIVISION
                                                           PENDING
PRAI
      GB 2000-164418
                          20000704
FΙ
      US 2004191238
                          20040930
DT
      Utility; Patent Application - First Publication
FS
      CHEMICAL
      APPLICATION
CLMN
     10
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9 Figure(s).
     FIG. 1 shows an alignment of human, porcine and canine
                                                              ***secretin***
     FIG. 2 shows differential expression of mRNA of the
                                                            ***secretin***
        ***receptor***
                         in control and CF lung regions.
     FIG. 3 shows mRNA expression of GAPDH in control and lung CF regions.
     FIG. 4 shows differential expression of mRNA of the
                                                          ***secretin***
        ***receptor***
                         in control and CF lung regions from a sample of 16
      control and 25 CF tissue donors.
     FIG. 5 shows that
                         ***secretin***
                                          stimulates ionic movement in the
      nonCF tertiary bronchus.
     FIG. 6 shows that
                         ***secretin***
                                          stimulates non-CTFR dependent ionic
      movement in confluent monolayers of primary human tertiary bronchial
      epithelial cells derived from non-CF donors.
     FIG. 7 shows that
                         ***secretin***
                                          stimulates ionic movement in the
      human CF tertiary bronchus.
     FIG. 8 shows the effect of
                                  ***secretin***
                                                   on chloride ion efflux in
      primary human tertiary bronchial epithelial cells derived from non CF
      donors.
     FIG. 9 shows the levels of NeuroD mRNA in tertiary bronchus and lung
      parenchyma of CF patients.
    ANSWER 6 OF 65 USPATFULL on STN
       2004:314579 USPATFULL
       Receptors and membrane associated proteins
       Lal, Preeti G, Santa Clara, CA, UNITED STATES
       Honchell, Cynthia D, San Francisco, CA, UNITED STATES
       Forsythe, Ian J, Edmonton, CA, UNITED STATES
       Chawla, Narinder K, Union City, CA, UNITED STATES
       Tang, Y Tom, San Jose, CA, UNITED STATES
       Borowsky, Mark L, Northampton, MA, UNITED STATES
       Barroso, Ines, Cambridge, UNITED KINGDOM
       Yue, Henry, Sunnyvale, CA, UNITED STATES
       Warren, Bridget A, San Marcos, CA, UNITED STATES
       Thangavelu, Kavitha, Sunnyvale, CA, UNITED STATES
       Gietzen, Kimberly J, San Jose, CA, UNITED STATES
      Azimzai, Yalda, Oakland, CA, UNITED STATES
       Lee, Ernestine A, Kensington, CA, UNITED STATES
       Baughn, Mariah R, Los Angeles, CA, UNITED STATES
       Gorvad, Ann E, Bellingham, WA, UNITED STATES
       Duggan, Brendan M, Sunnyvale, CA, UNITED STATES
       Tran, Bao, Santa Clara, CA, UNITED STATES
       Li, Joana X, Millbrae, CA, UNITED STATES
       Richardson, Thomas W, Redwood City, CA, UNITED STATES
       Elliott, Vicki S, San Jose, CA, UNITED STATES
       Zebarjadian, Yeganeh, San Francisco, CA, UNITED STATES
       Tran, Uyen K, San Jose, CA, UNITED STATES
       Yao, Monique G, Mountain View, CA, UNITED STATES
       Peterson, David P, San Jose, CA, UNITED STATES
       Luo, Wen, San Diego, CA, UNITED STATES
       Patricia, Lehr-Mason, Morgan Hill, CA, UNITED STATES
      US 2004248251
                          Α1
                               20041209
      US 2004-484148
                          Α1
                               20040707 (10)
      WO 2002-US22833
                               20020716
PRAI
      US 2001-60306020
                           20010717
      US 2001-60308179
                           20010727
      US 2001-60309702
                           20010802
      US 2001-60311476
                           20010810
      US 2001-60311718
                           20010810
      US 2001-60311551
                           20010810
      US 2001-60314798
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      US 2001-60316639
                           20010831
      US 2001-60317996
                           20010907
      Utility
      APPLICATION
LN.CNT 11092
INCL
      INCLM: 435/069.100
       INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
      NCLM:
             435/069.100
      NCLS:
             435/320.100; 435/325.000; 530/350.000; 536/023.500
       [7]
       ICM: C07K014-705
       ICS: C07H021-04
```

GI

L14AN

TT

IN

ΡI

ΑI

DT

FS

NCL

IC

IN

Thirstrup, Kenneth, Kobenhavn, DENMARK Madsen, Lars Siim, Kobenhavn, DENMARK Jensen, Jens Bitsch, Kobenhavn, DENMARK

Jensen, Bo Skaaning, Kobenhavn, DENMARK

Hummel, Rene, Hellerup, DENMARK

```
US 2004171008
PΙ
                           Α1
                                20040902
AΙ
       US 2003-477399
                           A1
                                20031112 (10)
       WO 2002-DK337
                                20020521
PRAI
       DE 2001-A802
                            20010518
DТ
       Utility
FS
       APPLICATION
LN.CNT 1805
INCL
       INCLM: 435/006.000
       INCLS: 530/350.000; 435/287.200
NCL
       NCLM: 435/006.000
       NCLS: 530/350.000; 435/287.200
IC
       [7]
       ICM: C12Q001-68
       ICS: C12M001-34; C07K014-705
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 10 OF 65 USPATFULL on STN
AN
       2004:13613 USPATFULL
       Composition for the detection of signaling pathway gene expression
TΤ
IN
       Au-Young, Janice, Brisbane, CA, UNITED STATES
       Seilhamer, Jeffrey J., Los Altos Hills, CA, UNITED STATES
PΑ
       Incyte Genomics, Inc., Palo Alto, CA (U.S. corporation)
PΙ
       US 2004010136
                          A1
                                20040115
ΑI
       US 2002-305720
                          A1
                                20021126 (10)
       Continuation of Ser. No. US 1998-16434, filed on 30 Jan 1998, GRANTED,
RLI
       Pat. No. US 6500938
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DT
FS
       APPLICATION
LN.CNT 6582
INCL
       INCLM: 536/024.300
       INCLS: 702/020.000
NCL
       NCLM: 536/024.300
       NCLS: 702/020.000
IC
       [7]
       ICM: C07H021-04
       ICS: G06F019-00; G01N033-48; G01N033-50
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 11 OF 65 USPATFULL on STN
AN
       2004:7325 USPATFULL
ΤI
       Proteins, polynucleotides ecoding them and methods of using the same
IN
       Anderson, David W., Branford, CT, UNITED STATES
       Burgess, Catherine E., Wethersfield, CT, UNITED STATES
       Casman, Stacie J., North Haven, CT, UNITED STATES
       Colman, Steven D., Guilford, CT, UNITED STATES
       Edinger, Shlomit R., New Haven, CT, UNITED STATES
       Ellerman, Karen, Branford, CT, UNITED STATES
       Gerlach, Valerie, Branford, CT, UNITED STATES
       Gunther, Erik, Branford, CT, UNITED STATES
       Kekuda, Ramesh, Stamford, CT, UNITED STATES
       MacDougall, John R., Hamden, CT, UNITED STATES
       Mehraban, Fuad, Trumbull, CT, UNITED STATES
       Patturajan, Meera, Branford, CT, UNITED STATES
       Rothenberg, Mark, Clinton, CT, UNITED STATES
       Shimkets, Richard A., Guilford, CT, UNITED STATES
       Smithson, Glennda, Guilford, CT, UNITED STATES
       Spytek, Kimberly A., New Haven, CT, UNITED STATES
       Stone, David J., Guilford, CT, UNITED STATES
       Vernet, Corine A.M., Branford, CT, UNITED STATES
       Zerhusen, Bryan D., Branford, CT, UNITED STATES
PΤ
       US 2004005558
                               20040108
                          A1
AΙ
       US 2002-52648
                               20020118 (10)
                          A1
PRAI
       US 2001-262454P
                           20010118 (60)
       US 2001-272920P
                           20010302 (60)
                           20010418 (60)
       US 2001-284549P
       US 2001-303229P
                           20010705 (60)
                           20010119 (60)
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                           20010123 (60)
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                           20010125 (60)
       US 2001-265517P
                           20010131 (60)
                           20010227 (60)
       US 2001-271855P
```

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US 2001-267057P
                           20010207 (60)
       US 2001-286287P
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ידמ
       Utility
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       APPLICATION
LN.CNT 10349
INCL
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       INCLS: 435/007.200; 435/069.100; 435/320.100; 435/325.000; 514/012.000;
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NCL
       NCLM:
              435/006.000
              435/007.200; 435/069.100; 435/320.100; 435/325.000; 514/012.000;
       NCLS:
              514/044.000; 530/350.000; 530/388.100
IC
       [7]
       ICM: C12Q001-68
       ICS: G01N033-53; G01N033-567; A61K038-17; A61K048-00; C12P021-02;
       C12N005-06; C07K014-47; C07K016-18
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    ANSWER 12 OF 65 USPATFULL on STN
L14
AN
       2004:7324 USPATFULL
TI
       Proteins, polynucleotides encoding them and methods of using the same
IN
       Padigaru, Muralidhara, Branford, CT, UNITED STATES
       Alsobrook, John P., II, Madison, CT, UNITED STATES
       Colman, Steven D., Guilford, CT, UNITED STATES
       Spytek, Kimberly A., New Haven, CT, UNITED STATES
       Boldog, Ferenc L., North Haven, CT, UNITED STATES
       Vernet, Corine A.M., Branford, CT, UNITED STATES
       Li, Li, Branford, CT, UNITED STATES
       Shenoy, Suresh G., Branford, CT, UNITED STATES
       Casman, Stacie J., North Haven, CT, UNITED STATES
       Guo, Xiaojia (Sasha), Branford, CT, UNITED STATES
       Edinger, Shlomit R., New Haven, CT, UNITED STATES
       MacDougall, John R., Hamden, CT, UNITED STATES
       Malyankar, Uriel M., Branford, CT, UNITED STATES
       Patturajan, Meera, Branford, CT, UNITED STATES
       Shimkets, Richard A., Guilford, CT, UNITED STATES
       Pena, Carol E. A., New Haven, CT, UNITED STATES
       Tchernev, Velizar T., Branford, CT, UNITED STATES
       Zerhusen, Bryan D., Branford, CT, UNITED STATES
       Millet, Isabelle, Milford, CT, UNITED STATES
       Miller, Charles E., Guilford, CT, UNITED STATES
       Lepley, Denise M., Branford, CT, UNITED STATES
       Smithson, Glennda, Guilford, CT, UNITED STATES
       Baumgartner, Jason C., New Haven, CT, UNITED STATES
       Herrmann, John L., Guilford, CT, UNITED STATES
       Peyman, John A., New Haven, CT, UNITED STATES
       Gorman, Linda, Branford, CT, UNITED STATES
       Mezes, Peter D., Old Lyme, CT, UNITED STATES
       Kekuda, Ramesh, Norwalk, CT, UNITED STATES
       Taupier, Raymond J., JR., East Haven, CT, UNITED STATES
       Gerlach, Valerie, Branford, CT, UNITED STATES
       Grosse, William M., Branford, CT, UNITED STATES
       Liu, Xiaohong, Lexington, MA, UNITED STATES
       Ellerman, Karen, Branford, CT, UNITED STATES
       Rothenberg, Mark, Clinton, CT, UNITED STATES
       Stone, David J., Guilford, CT, UNITED STATES
       Burgess, Catherine E., Wethersfield, CT, UNITED STATES
PΙ
       US 2004005557
                               20040108
                          A1
ΑI
       US 2002-51874
                          A1
                               20020116 (10)
PRAI
                           20010116 (60)
       US 2001-261376P
       US 2001-268595P
                           20010214 (60)
       US 2001-325306P
                           20010927 (60)
       US 2001-262587P
                           20010118 (60)
       US 2001-272409P
                           20010228 (60)
       US 2001-262454P
                           20010118 (60)
                           20010316 (60)
       US 2001-276777P
                           20010517 (60)
       US 2001-291672P
       US 2001-330336P
                           20011018 (60)
       US 2001-265530P
                           20010131 (60)
       US 2001-345202P
                           20011109 (60)
DT
       Utility
       APPLICATION
LN.CNT 16208
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INCL
       INCLM: 435/006.000
       INCLS: 435/069.100; 435/183.000; 435/320.100; 435/325.000; 530/350.000;
              536/023.200
NCL
       NCLM:
              435/006.000
       NCLS:
              435/069.100; 435/183.000; 435/320.100; 435/325.000; 530/350.000;
              536/023.200
IC
       [7]
       ICM: C12Q001-68
       ICS: C07H021-04; C12N009-00; C12P021-02; C12N005-06; C07K014-435
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
    ANSWER 13 OF 65 USPATFULL on STN
AN
       2004:116712 USPATFULL
ΤI
       Nucleic acid encoding 15571, a GPCR-like molecule of the
         ***secretin*** -like family
IN
       Hodge, Martin R., Arlington, MA, United States
       Lloyd, Clare, London, UNITED KINGDOM
       Weich, Nadine S., Brookline, MA, United States
PA
       Millennium Pharmaceuticals, Inc., Cambridge, MA, United States (U.S.
       corporation)
PΙ
       US 6733990
                          В1
                               20040511
AΙ
       US 2000-631603
                               20000803 (9)
RLI
       Continuation-in-part of Ser. No. US 2000-515781, filed on 29 Feb 2000,
       now abandoned
PRAI
       US 1999-146916P
                           19990803 (60)
DT
       Utility
FS
       GRANTED
LN.CNT 4954
INCL
       INCLM: 435/069.100
       INCLS: 435/071.100; 435/071.200; 435/252.300; 435/254.110; 435/325.000;
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       NCLM:
              435/069.100
              435/071.100; 435/071.200; 435/252.300; 435/254.110; 435/320.100;
       NCLS:
              435/325.000; 435/471.000; 530/350.000; 536/023.500
TC
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       ICM: C12N015-12
       ICS: C12N005-10; C12N015-63
EXF
       536/23.1; 536/23.5; 530/350; 435/69.1; 435/71.1; 435/71.2; 435/325;
       435/320.1; 435/471; 435/252.3; 435/254.11
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
    ANSWER 14 OF 65 USPATFULL on STN
AN
       2003:318673 USPATFULL
TI
       14400, 2838, 14618, 15334, 14274, 32164, 39404, 38911, 26904, 31237,
       18057, 16405, 32705, 23224, 27423, 32700, 32712 and 12216, novel
       seven-transmembrane proteins/G-protein coupled receptors
IN
       Glucksmann, Maria A., Lexington, MA, UNITED STATES
       Weich, Nadine S., Brookline, MA, UNITED STATES
       Hunter, John Joseph, Somerville, MA, UNITED STATES
       White, David, Braintree, MA, UNITED STATES
       MacBeth, Kyle J., Boston, MA, UNITED STATES
       Williamson, Mark J., Saugus, MA, UNITED STATES
       Meyers, Rachel E., Newton, MA, UNITED STATES
       Chun, Miyoung, Belmont, MA, UNITED STATES
PΑ
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003224417
                          A1
                               20031204
ΑI
       US 2003-400991
                               20030327 (10)
                          Α1
       Continuation-in-part of Ser. No. US 2002-190469, filed on 5 Jul 2002,
RLI
       PENDING Continuation of Ser. No. US 1999-439159, filed on 12 Nov 1999,
       ABANDONED Division of Ser. No. US 1998-137063, filed on 20 Aug 1998,
       ABANDONED Continuation-in-part of Ser. No. US 2002-167192, filed on 11
       Jun 2002, PENDING Division of Ser. No. US 1999-420187, filed on 18 Oct
       1999, ABANDONED Continuation-in-part of Ser. No. US 1998-173869, filed
      on 16 Oct 1998, ABANDONED Continuation-in-part of Ser. No. US
       2003-339056, filed on 9 Jan 2003, PENDING Continuation of Ser. No. US
       1999-377429, filed on 19 Aug 1999, ABANDONED Continuation-in-part of
      Ser. No. US 1998-136726, filed on 19 Aug 1998, ABANDONED
      Continuation-in-part of Ser. No. US 2001-911583, filed on 24 Jul 2001,
      ABANDONED Continuation-in-part of Ser. No. US 1999-476287, filed on 30
      Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-475790,
       filed on 30 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US
       2001-779448, filed on 8 Feb 2001, ABANDONED Continuation-in-part of Ser.
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No. US 1999-347094, filed on 2 Jul 1999, ABANDONED Continuation-in-part
       of Ser. No. US 2001-794257, filed on 27 Feb 2001, PENDING
       Continuation-in-part of Ser. No. US 1999-448687, filed on 24 Nov 1999,
       PENDING Continuation-in-part of Ser. No. US 1998-200302, filed on 25 Nov
       1998, ABANDONED
PRAI
       US 2000-180986P
                           20000208 (60)
       US 2000-185606P
                           20000229 (60)
דת
       Utility
       APPLICATION
FS
LN.CNT 10269
INCL
       INCLM: 435/006.000
       INCLS: 435/007.100; 435/069.100; 435/320.100; 435/325.000; 530/350.000;
              536/023.500; 514/012.000
NCL
       NCLM:
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       NCLS:
              435/007.100; 435/069.100; 435/320.100; 435/325.000; 530/350.000;
              536/023.500; 514/012.000
IC
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       ICM: C12Q001-68
       ICS: G01N033-53; C07K014-705; C12P021-02; C12N005-06; A61K038-17
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 15 OF 65 USPATFULL on STN
L14
AN
       2003:306426 USPATFULL
TI
       Novel 18636, 2466, 43238, 1983, 52881, 2398, 45449, 50289, 52872 and
       26908 molecules and uses therefor
IN
       Glucksmann, Maria A., Lexington, MA, UNITED STATES
       Silos-Santiago, Inmaculada, Del Mar, CA, UNITED STATES
       Carroll, Joseph M., Cambridge, MA, UNITED STATES
       Galvin, Katherine M., Jamaica Plain, MA, UNITED STATES
PΑ
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003215860
                                20031120
                          A1
ΑI
       US 2003-407079
                          Α1
                                20030403 (10)
RLI
       Continuation-in-part of Ser. No. US 2002-226102, filed on 22 Aug 2002,
       PENDING Continuation-in-part of Ser. No. US 2002-225094, filed on 21 Aug
       2002, PENDING Continuation-in-part of Ser. No. US 2002-272417, filed on
       15 Oct 2002, PENDING Continuation of Ser. No. US 2000-715790, filed on
       17 Nov 2000, ABANDONED Continuation-in-part of Ser. No. US 2002-282837,
       filed on 29 Oct 2002, PENDING Continuation of Ser. No. US 2001-796338,
       filed on 28 Feb 2001, ABANDONED Continuation-in-part of Ser. No. US
       2001-863200, filed on 22 May 2001, ABANDONED
PRAI
       US 2001-314041P
                           20010822 (60)
       US 2001-314185P
                           20010822 (60)
       US 2000-191845P
                           20000324 (60)
       US 2000-186059P
                           20000229 (60)
       US 2000-206019P
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DT
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FS
       APPLICATION
LN.CNT 12157
INCL
       INCLM: 435/006.000
       INCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 530/388.100;
              536/023.100
NCL
       NCLM:
              435/006.000
       NCLS:
              435/069.100; 435/320.100; 435/325.000; 530/350.000; 530/388.100;
              536/023.100
IC
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       ICM: C12Q001-68
       ICS: C07H021-04; C07K014-47; C12P021-02; C12N005-06; C07K016-18
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 16 OF 65 USPATFULL on STN
AN
       2003:237885 USPATFULL
       Novel seven-transmembrane proteins/G-protein coupled receptors
ΤI
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
IN
       Silos-Santiago, Inmaculada, Cambridge, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003166042
                          Α1
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ΑI
       US 2001-781880
                          Α1
                               20010212 (9)
PRAI
       US 2000-182061P
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DT
       Utility
FS
       APPLICATION
LN.CNT 4981
INCL
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INCLS: 435/320.100; 435/325.000; 435/183.000; 536/023.200
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       NCLM: 435/069.100
       NCLS: 435/320.100; 435/325.000; 435/183.000; 536/023.200
TC
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       ICM: C12P021-02
       ICS: C12N005-06; C07H021-04; C12N009-00
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 17 OF 65 USPATFULL on STN
AN
       2003:232047 USPATFULL
TI
       32164 protein, a novel seven transmembrane protein
IN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Weich, Nadine S., Brookline, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
ΡI
       US 2003162247
                                20030828
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ΑI
       US 2001-911583
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                                20010724 (9)
RLI
       Continuation-in-part of Ser. No. US 1999-476287, filed on 30 Dec 1999,
       PENDING
PRAI
       WO 2000-US34973
                           20001222
DТ
       Utility
FS
       APPLICATION
LN.CNT 3764
INCL
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       INCLS: 530/350.000; 435/320.100; 435/325.000; 536/023.500
NCL
       NCLM: 435/069.100
       NCLS:
              530/350.000; 435/320.100; 435/325.000; 536/023.500
IC
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       ICM: C07K014-705
       ICS: C07H021-04; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 18 OF 65 USPATFULL on STN
L14
AN
       2003:231972 USPATFULL
TI
       2871 receptor, a novel G-protein coupled receptor
IN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Hodge, Martin R., Arlington, MA, UNITED STATES
       Hunter, John J., Somerville, MA, UNITED STATES
       Rudolph-Owen, Laura, Jamaica Plain, MA, UNITED STATES
       Weich, Nadine S., Brookline, MA, UNITED STATES
PΙ
       US 2003162172
                                20030828
                          A1
ΑI
       US 2000-741783
                          A1
                                20001218 (9)
RLI
       Continuation-in-part of Ser. No. US 1999-464685, filed on 16 Dec 1999,
       PENDING Continuation-in-part of Ser. No. US 1999-324465, filed on 2 Jun
       1999, PENDING Continuation-in-part of Ser. No. US 1998-88857, filed on 2
       Jun 1998, ABANDONED
       Utility
DT
FS
       APPLICATION
LN.CNT 3226
INCL
       INCLM: 435/006.000
       INCLS: 536/023.200; 435/007.100
       NCLM: 435/006.000
NCL
       NCLS: 536/023.200; 435/007.100
IC
       [7]
       ICM: C12Q001-68
       ICS: G01N033-53; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    ANSWER 19 OF 65 USPATFULL on STN
L14
AN
       2003:213811 USPATFULL
ΤI
       G protein coupled receptor agonists and antagonists and methods of
       activating and inhibiting G protein coupled receptors using the same
IN
       Kuliopulos, Athan, Winchester, MA, UNITED STATES
       Covic, Lidija, Somerville, MA, UNITED STATES
PΙ
       US 2003148449
                          Α1
                               20030807
ΑI
       US 2002-251703
                          A1
                               20020920 (10)
RLI
       Continuation-in-part of Ser. No. US 2001-841091, filed on 23 Apr 2001,
       PENDING
      US 2000-198993P
PRAI
                           20000421 (60)
DT
      Utility
FS
       APPLICATION
LN.CNT 2816
      INCLM: 435/069.100
INCL
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INCLS: 435/320.100; 435/325.000; 530/350.000; 514/012.000; 514/558.000
NCL
       NCLM: 435/069.100
       NCLS: 435/320.100; 435/325.000; 530/350.000; 514/012.000; 514/558.000
TC
       [7]
       ICM: A61K038-17
       ICS: C12P021-02; C12N005-06; C07K014-705; A61K031-20
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 20 OF 65 USPATFULL on STN
L14
AN
       2003:213643 USPATFULL
ΤI
       65499 and 58875, novel seven transmembrane receptors and uses thereof
IN
       Glucksmann, Maria A., Lexington, MA, UNITED STATES
PΙ
       US 2003148281
                          Α1
                                20030807
AΙ
       US 2001-971269
                          Α1
                                20011003 (9)
PRAI
       US 2000-237700P
                           20001005 (60)
דים
       Utility
FS
       APPLICATION
LN.CNT 5168
INCL
       INCLM: 435/006.000
       INCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL
       NCLM: 435/006.000
       NCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 536/023.500
IC
       [7]
       ICM: C120001-68
       ICS: C07H021-04; C12P021-02; C12N005-06; C07K014-705
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 21 OF 65 USPATFULL on STN
AN
       2003:200905 USPATFULL
ΤI
       Novel G protein-coupled receptor family members, human thioredoxin
       family members, human leucine-rich repeat family members, and human
       ringfinger family member
IN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Silos-Santiago, Inmaculada, Jamaica Plain, MA, UNITED STATES
       Galvin, Katherine M., Jamaica Plain, MA, UNITED STATES
       Weich, Nadine, Brookline, MA, UNITED STATES
       Curtis, Rory A. J., Framingham, MA, UNITED STATES
       Bandaru, Rajasekhar, Watertown, MA, UNITED STATES
       Kapeller-Libermann, Rosana, Chestnut Hill, MA, UNITED STATES
PΙ
       US 2003138890
                          A1
                               20030724
AΙ
       US 2002-145586
                          Α1
                                20020514 (10)
       Continuation-in-part of Ser. No. US 2001-796338, filed on 28 Feb 2001,
RLI
       PENDING Continuation-in-part of Ser. No. WO 2001-US6543, filed on 28 Feb
       2001, PENDING
PRAI
       WO 2001-US6057
                           20010223
       WO 2001-US23152
                           20010723
       WO 2001-US40476
                           20010409
       WO 2001-US7139
                           20010305
       WO 2001-US19544
                           20010615
       WO 2001-US29967
                           20010925
       WO 2001-US9470
                           20010323
       WO 2001-US10380
                           20010330
       WO 2001-US29968
                           20010925
       US 2000-186059P
                           20000229 (60)
       US 2000-220042P
                           20000721 (60)
       US 2000-187447P
                           20000307 (60)
       US 2000-211673P
                           20000615 (60)
       US 2000-235049P
                           20000925 (60)
       US 2000-191863P
                           20000324 (60)
       US 2000-193919P
                           20000331 (60)
       US 2000-235032P
                           20000925 (60)
DT
      Utility
FS
       APPLICATION
LN.CNT 51652
INCL
       INCLM: 435/069.100
       INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL
       NCLM: 435/069.100
      NCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
IC
       [7]
       ICM: C07K014-705
       ICS: C12P021-02; C12N005-06; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
```

```
L14
     ANSWER 22 OF 65 USPATFULL on STN
ΔN
       2003:187854 USPATFULL
TI
       14274 receptor, a novel G-protein coupled receptor related to the EDG
       receptor family
TN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Weich, Nadine S., Brookline, MA, UNITED STATES
       Hunter, John J., Somerville, MA, UNITED STATES
PΑ
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003129644
                          Α1
                                20030710
                                20030109 (10)
AΙ
       US 2003-339056
                          A1
RLI
       Continuation of Ser. No. US 1999-377429, filed on 19 Aug 1999, ABANDONED
       Continuation-in-part of Ser. No. US 1998-136726, filed on 19 Aug 1998,
       PENDING
DΤ
       Utility
       APPLICATION
FS
LN.CNT 3157
INCL
       INCLM: 435/006.000
       INCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 530/388.220;
              536/023.500; 435/007.100
NCL
       NCLM:
              435/006.000
       NCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 530/388.220;
              536/023.500; 435/007.100
TC
       [7]
       ICM: C120001-68
       ICS: G01N033-53; C07H021-04; C12P021-02; C12N005-06; C07K014-705
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 23 OF 65 USPATFULL on STN
ΑN
       2003:180840 USPATFULL
TT
       43238, a novel G protein-coupled receptor and uses therefor
IN
       Glucksmann, Maria, Newton, MA, UNITED STATES
       Silos-Santiago, Inmaculada, Cambridge, MA, UNITED STATES
PΙ
       US 2003124670
                          Α1
                               20030703
ΑI
       US 2002-272417
                          A1
                               20021015 (10)
       Continuation of Ser. No. US 2000-715790, filed on 17 Nov 2000, ABANDONED
RLI
       US 2000-191845P
PRAI
                           20000324 (60)
DT
       Utility
FS
       APPLICATION
LN.CNT 4070
INCL
       INCLM: 435/069.100
       INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500; 530/388.220;
              435/006.000
NCL
       NCLM:
              435/069.100
       NCLS:
              435/320.100; 435/325.000; 530/350.000; 536/023.500; 530/388.220;
              435/006.000
IC
       [7]
       ICM: C120001-68
       ICS: C07H021-04; C12P021-02; C12N005-06; C07K014-705
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 24 OF 65 USPATFULL on STN
L14
       2003:140941 USPATFULL
AN
ΤI
       21132, a human G-protein coupled receptor family member and uses
       therefor
TN
       Carroll, Joseph M., Cambridge, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003096783
                         A1
                               20030522
ΑI
       US 2002-266886
                          A1
                               20021008 (10)
PRAI
      US 2001-328345P
                          20011010 (60)
DT
      Utility
      APPLICATION
LN.CNT 4722
INCL
       INCLM: 514/044.000
       INCLS: 514/012.000; 514/001.000; 424/146.100; 435/006.000; 435/007.100
NCL
      NCLM:
              514/044.000
      NCLS:
              514/012.000; 514/001.000; 424/146.100; 435/006.000; 435/007.100
IC
       [7]
       ICM: A61K048-00
       ICS: A61K038-17; A61K031-00; C12Q001-68; G01N033-53; A61K039-395
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
```

```
ANSWER 25 OF 65 USPATFULL on STN
AN
       2003:140506 USPATFULL
TI
       Polynucleotides encoding two novel human G-protein coupled receptors,
       HGPRBMY28 and HGPRBMY29, and splice variants thereof
TN
       Feder, John N., Belle Mead, NJ, UNITED STATES
       Ramanathan, Chandra S., Wallingford, CT, UNITED STATES
       Mintier, Gabriel A., Hightstown, NJ, UNITED STATES
       Bol, David, Langhorne, PA, UNITED STATES
       Hawken, Donald R., Lawrenceville, NJ, UNITED STATES
                                20030522
PΙ
       US 2003096347
                           Α1
ΑI
       US 2002-120604
                                20020411 (10)
                           Α1
PRAI
       US 2001-283145P
                            20010411 (60)
       US 2001-283161P
                            20010411 (60)
       US 2001-288468P
                            20010503 (60)
       US 2001-300619P
                            20010625 (60)
       Utility
DT
FS
       APPLICATION
LN.CNT 20308
INCL
       INCLM: 435/069.100
       INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL
              435/069.100
       NCLS:
              435/320.100; 435/325.000; 530/350.000; 536/023.500
IC
       [7]
       ICM: C12P021-02
       ICS: C12N005-06; C07K014-705; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 26 OF 65 USPATFULL on STN
ΑN
       2003:127069 USPATFULL
TI
       18636 receptor, a human G-protein-coupled receptor (GPCR) family member,
       and uses therefor
       Carroll, Joseph M., Cambridge, MA, UNITED STATES
IN
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
ÞΑ
PT
       US 2003087281
                                20030508
                          Α1
ΑI
       US 2002-226102
                          Α1
                                20020822 (10)
       US 2001-314041P
PRAI
                            20010822 (60)
       Utility
DT
FS
       APPLICATION
LN.CNT 4612
INCL
       INCLM: 435/006.000
       INCLS: 435/007.100
NCL
       NCLM: 435/006.000
       NCLS: 435/007.100
IC
       [7]
       ICM: C12Q001-68
       ICS: G01N033-53
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
T.14
     ANSWER 27 OF 65 USPATFULL on STN
ΔN
       2003:127037 USPATFULL
TI
       93870, a human G-protein coupled receptor and uses therefor
IN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΤ
       US 2003087249
                          Α1
                                20030508
       US 2002-85233
AΙ
                          Α1
                                20020228 (10)
       US 2001-272677P
PRAI
                           20010301 (60)
DT
       Utility
       APPLICATION
FS
LN.CNT 4506
INCL
       INCLM: 435/006.000
       INCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL
       NCLM:
              435/006.000
       NCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 536/023.500
IC
       [7]
       ICM: C12Q001-68
       ICS: C07H021-04; C12P021-02; C12N005-06; C07K014-705
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
1,14
     ANSWER 28 OF 65 USPATFULL on STN
ΑN
       2003:93040 USPATFULL
TI
       2466 receptor, a human G-protein-coupled receptor (GPCR) family member
       and uses therefor
```

L14

```
IN
       Silos-Santiago, Inmaculada, Jamaica Plain, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003064399
                          Α1
                                20030403
ΑI
       US 2002-225094
                          Α1
                                20020821 (10)
PRAI
       US 2001-314185P
                           20010822 (60)
DT
       Utility
       APPLICATION
FS
LN.CNT 4590
INCL
       INCLM: 435/006.000
       INCLS: 435/007.100
NCL
       NCLM: 435/006.000
       NCLS: 435/007.100
IC
       [7]
       ICM: C12Q001-68
       ICS: G01N033-53
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 29 OF 65 USPATFULL on STN
AN
       2003:57488 USPATFULL
TΤ
       Novel G-protein coupled receptors
IN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Weich, Nadine S., Brookline, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003040052
                          Α1
                                20030227
AΙ
       US 2002-167192
                          A1
                                20020611 (10)
       Division of Ser. No. US 1999-420187, filed on 18 Oct 1999, PENDING
RLI
       Continuation-in-part of Ser. No. US 1998-173869, filed on 16 Oct 1998,
       PENDING
DT
       Utility
FS
       APPLICATION
LN.CNT 4725
INCL
       INCLM: 435/069.100
       INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL
       NCLM: 435/069.100
       NCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
IC
       [7]
       ICM: C07K014-705
       ICS: C07H021-04; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 30 OF 65 USPATFULL on STN
AN
       2003:23699 USPATFULL
       Novel nucleic acid sequences encoding G-protein coupled receptors
TI
IN
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Hodge, Martin R., Lexington, MA, UNITED STATES
       Hunter, John J., Somerville, MA, UNITED STATES
       Rudolph-Owen, Laura A., Jamaica Plain, MA, UNITED STATES
       Silos-Santiago, Inmaculada, Jamaica Plain, MA, UNITED STATES
       Weich, Nadine S., Brookline, MA, UNITED STATES
PA
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
PΙ
       US 2003017539
                          Α1
                               20030123
ΑI
       US 2002-165844
                          A1
                               20020607 (10)
       Continuation-in-part of Ser. No. US 2000-741783, filed on 18 Dec 2000,
RLI
       PENDING Continuation-in-part of Ser. No. US 1999-464685, filed on 16 Dec
       1999, PENDING Continuation-in-part of Ser. No. US 1999-324465, filed on
       2 Jun 1999, PENDING Continuation-in-part of Ser. No. US 1998-88857,
       filed on 2 Jun 1998, ABANDONED Continuation-in-part of Ser. No. US
       1999-383745, filed on 26 Aug 1999, PENDING Continuation-in-part of Ser.
       No. US 1998-145745, filed on 2 Sep 1998, PENDING Continuation-in-part of
       Ser. No. US 1999-234923, filed on 21 Jan 1999, PENDING
       Continuation-in-part of Ser. No. US 1999-340880, filed on 28 Jun 1999,
       PENDING
DT
       Utility
FS
       APPLICATION
LN.CNT 11690
INCL
       INCLM: 435/069.100
       INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL
       NCLM:
             435/069.100
       NCLS:
              435/320.100; 435/325.000; 530/350.000; 536/023.500
TC
       [7]
       ICM: C07K014-705
       ICS: C07H021-04; C12P021-02; C12N005-06
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ANSWER 31 OF 65 CIN COPYRIGHT 2005 ACS on STN
L14
AN
     32(50):23624F CIN
ΤI
     Patents: applications published 2 April 2003
SO
     Manuf. Chem., Oct 2003 (20031000), 74(10), p. 78. ISSN: 0262-4230; CODEN:
     MCHMDI.
     English
LΑ
    ANSWER 32 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 3
L14
AN
     2002:31273 CAPLUS
DN
     136:80339
             ***secretin*** - ***receptor***
ΤI
     Use of
                                               ligands in treatment of
     cystic fibrosis (CF) and ***chronic*** ***obstructive***
       ***pulmonary*** ***disease*** (COPD)
     Davis, Richard Jon; Page, Keith John
IN
PA
     Pharmagene Laboratories Ltd., UK
SO
     PCT Int. Appl., 50 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 1
    WO 2002002134 Δ1
     PATENT NO.
                      KIND DATE
                                     APPLICATION NO.
                                         -----
                       A1 20020110 WO 2001-GB2989
ΡI
                                                              20010704
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
            GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
            RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
            UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
            BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                    A1 20021003 US 2001-897412
    US 2002142956
                                                                20010703
    US 6780839
                       B2
                              20040824
    CA 2412839
                       AA
                              20020110
                                       CA 2001-2412839
                                                               20010704
    AU 2001067729
                       A5 20020114 AU 2001-67729
                                                                20010704
    GB 2368795
                       A1
                              20020515
                                         GB 2002-416
                                                                20010704
    GB 2368795
                       B2
                              20040804
                             20030402 EP 2001-945514
     EP 1296708
                        A1
                                                               20010704
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                     T2
    JP 2004501977
                             20040122 JP 2002-506755
                                                                20010704
    GB 2397522
                       A1
                              20040728
                                         GB 2004-9577
                                                                20010704
                    B2
    GB 2397522
                              20040922
NZ 523303 A

NO 2002006119 A

ZA 2002010268 A

US 2004191238 A1

PRAI GB 2000-16441 A
                                       NZ 2001-523303
                              20041126
                                                                20010704
                              20030225
                                         NO 2002-6119
                                                                20021219
                                         ZA 2002-10268
                              20031028
                                                                20021219
                                         US 2004-822677
                              20040930
                                                                20040413
                              20000704
    US 2001-897412
                       A3
                              20010703
                    A3
    GB 2002-416
                              20010704
    WO 2001-GB2989
                       W
                              20010704
             THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 4
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
L14
    ANSWER 33 OF 65 IFIPAT COPYRIGHT 2005 IFI on STN DUPLICATE 4
AN
     10199251 IFIPAT; IFIUDB; IFICDB
            ***SECRETIN*** - ***RECEPTOR*** LIGANDS IN TREATMENT OF
TI
      CYSTIC FIBROSIS (CF) AND ***CHRONIC*** ***OBSTRUCTIVE***
       ***PULMONARY***
                         ***DISEASE*** (COPD); ADMINISTERING AN AGENT WHICH
      TRIGGERS ANION EFFLUX IN RESPIRATORY TISSUE VIA THE ACTIVATION OF A
                        ***RECEPTOR*** FOR THERAPY OF CYSTIC FIBROSIS
       ***SECRETIN***
IN
     Davis Richard J (GB); Page Keith J (GB)
PA
     Unassigned Or Assigned To Individual (68000)
PT
     US 2002142956 A1 20021003
ΑI
     US 2001-897412
                        20010703
PRAI
     GB 2000-164418
                        20000704
FΙ
     US 2002142956
                        20021003
DT
     Utility; Patent Application - First Publication
FS
     CHEMICAL
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CLMN
     10
       9 Figure(s).
     FIG. 1 shows an alignment of human, porcine and canine
                                                              ***secretin***
     FIG. 2 shows differential expression of mRNA of the
                                                            ***secretin***
        ***receptor***
                         in control and CF lung regions.
     FIG. 3 shows mRNA expression of GAPDH in control and lung CF regions.
     FIG. 4 shows differential expression of mRNA of the ***secretin***
                         in control and CF lung regions from a sample of 16
        ***receptor***
      control and 25 CF tissue donors.
     FIG. 5 shows that
                         ***secretin***
                                          stimulates ionic movement in the
      nonCF tertiary bronchus.
     FIG. 6 shows that
                         ***secretin***
                                          stimulates non-CTFR dependent ionic
      movement in confluent monolayers of primary human tertiary bronchial
      epithelial cells derived from non-CF donors.
     FIG. 7 shows that
                         ***secretin***
                                          stimulates ionic movement in the
      human CF tertiary bronchus.
     FIG. 8 shows the effect of
                                  ***secretin***
                                                   on chloride ion efflux in
      primary human tertiary bronchial epithelial cells derived from non CF
      donors.
     FIG. 9 shows the levels of NeuroD mRNA in tertiary bronchus and lung
      parenchyma of CF patients.
L14
     ANSWER 34 OF 65 USPATFULL on STN
       2002:213774 USPATFULL
       14275 receptor, a novel G-protein coupled receptor related to the
       EDGreceptor family
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       Hodge, Martin R., Arlington, MA, UNITED STATES
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
       US 2002115150
                               20020822
                          Α1
       US 2001-7399
                          Α1
                               20011105 (10)
       Continuation of Ser. No. US 1999-390039, filed on 3 Sep 1999, ABANDONED
       Continuation-in-part of Ser. No. US 1998-146416, filed on 3 Sep 1998,
       ABANDONED
       Utility
       APPLICATION
LN.CNT 4004
INCL
       INCLM: 435/069.100
       INCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.500
       NCLM: 435/069.100
       NCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.500
       [7]
       ICM: C07K014-705
       ICS: C07H021-04; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    ANSWER 35 OF 65 USPATFULL on STN
       2002:78404 USPATFULL
       18057 protein, a novel seven transmembrane protein
       Glucksmann, Maria Alexandra, Lexington, MA, UNITED STATES
       MacBeth, Kyle J., Boston, MA, UNITED STATES
       Williamson, Mark, Saugus, MA, UNITED STATES
       Millennium Pharmaceuticals, Inc. (U.S. corporation)
       US 2002042058
                               20020411
                        A1
       US 2001-779448
                          A1
                               20010208 (9)
PRAI
       US 2000-180986P
                          20000208 (60)
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LN.CNT 4184
TNCL
       INCLM: 435/006.000
       NCLM: 435/006.000
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       ICM: C120001-68
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
    ANSWER 36 OF 65 USPATFULL on STN
       2002:72625 USPATFULL
       26908 novel G protein-coupled receptors and uses therefor
       Glucksmann, Maria A., Lexington, MA, UNITED STATES
      US 2002039762
                          Α1
                               20020404
```

APPLICATION

GI

AN

ΤI

IN

PΑ PI

ΑI

DT

FS

NCL

IC

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PA PΙ

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TOT

NCL

IC

L14

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TI

IN ΡI

ΑI

US 2001-863200

A1

20010522 (9)

RLI

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PRAI
       US 2000-206019P
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       Utility
דת
FS
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LN.CNT 4248
INCL
       INCLM: 435/069.100
       INCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.200
NCL
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       NCLS: 435/325.000; 435/320.100; 530/350.000; 536/023.200
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       ICM: C07K014-705
       ICS: C12P021-02; C12N005-06; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L14
     ANSWER 37 OF 65 USPATFULL on STN
AN
       2002:346979 USPATFULL
       Composition for the detection of signaling pathway gene expression
ΤI
IN
       Au-Young, Janice, Berkeley, CA, United States
       Seilhamer, Jeffrey J., Los Altos Hills, CA, United States
PA
       Incyte Genomics, Inc., Palo Alto, CA, United States (U.S. corporation)
PΤ
       US 6500938
                          B1
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ΑI
       US 1998-16434
                                19980130 (9)
DT
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FS
       GRANTED
LN.CNT 6180
INCL
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       INCLS: 422/050.000; 422/068.100; 435/006.000; 436/501.000; 536/024.100;
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NCL
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              536/023.100
              422/050.000; 422/068.100; 435/006.000; 436/501.000; 536/024.100;
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              536/024.300; 536/024.310; 536/024.320; 536/024.330
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EXF
       435/6; 435/69.1; 422/50; 422/68.1; 436/501; 536/23.1; 536/24.1;
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CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     ANSWER 38 OF 65 USPATFULL on STN
L14
AN
       2001:212136 USPATFULL
ΤI
       39406 protein, a novel seven transmembrane protein
IN
       Glucksmann, Maria Alexandra, Lexington, MA, United States
       Galvin, Katherine M., Jamaica Plain, MA, United States
       Millennium Pharmaceuticals, Inc (U.S. corporation)
PA
PΙ
       US 2001044130
                          Α1
                               20011122
ΑI
       US 2001-779239
                                20010208 (9)
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PRAI
       US 2000-180912P
                           20000208 (60)
DT
       Utility
FS
       APPLICATION
LN.CNT 4199
INCL
       INCLM: 435/069.100
       INCLS: 435/325.000; 536/023.500; 530/350.000
NCL
       NCLM: 435/069.100
       NCLS: 435/325.000; 536/023.500; 530/350.000
TC
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       ICM: C12P021-02
       ICS: C12N005-06; C07H021-04; C07K014-705
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
      ANSWER 39 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
L14
AN
      AAI72394 DNA
                          DGENE
TΙ
      Use of a
                 ***secretin***
                                     ***receptor***
                                                      ligand in a medicament for
      the treatment of cystic fibrosis
IN
      Davis R J; Page K J
                  PHARMAGENE LAB LTD.
PA
      (PHAR-N)
PΤ
      WO 2002002134 A1 20020110
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ΑI
      WO 2001-GB2989
                           20010704
PRAI
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DT
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LA
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OS
      2002-171615 [22]
DESC BETA2/NeuroD probe.
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L14
     ANSWER 40 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
AN
     AAI72393 DNA DGENE
TI
     Use of a ***secretin***
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      the treatment of cystic fibrosis
TN
     Davis R J; Page K J
PA
     (PHAR-N)
                PHARMAGENE LAB LTD.
     WO 2002002134 A1 20020110
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AΙ
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PRAI GB 2000-16441
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OS
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DESC BETA2/NeuroD reverse primer.
L14
     ANSWER 41 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
AN
     AAI72392 DNA DGENE
TI
     Use of a ***secretin***
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      the treatment of cystic fibrosis
IN
     Davis R J; Page K J
PΑ
     (PHAR-N)
                PHARMAGENE LAB LTD.
ΡI
     WO 2002002134 A1 20020110
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AΙ
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PRAI GB 2000-16441
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LΑ
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os
     2002-171615 [22]
DESC BETA2/NeuroD forward primer.
L14
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AN
     AAI72391 DNA DGENE
     Use of a ***secretin***
                                  ***receptor*** ligand in a medicament for
TI
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TN
     Davis R J; Page K J
PΑ
      (PHAR-N) PHARMAGENE LAB LTD.
PI
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AΙ
     WO 2001-GB2989 20010704
PRAI GB 2000-16441
                        20000704
DT
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LA
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DESC GAPDH probe.
L14
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AN
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TI
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TN
     Davis R J; Page K J
PΑ
               PHARMAGENE LAB LTD.
     (PHAR-N)
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                                             50p
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AΙ
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LA
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     2002-171615 [22]
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DESC GAPDH reverse primer.
     ANSWER 44 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
L14
AN
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     Use of a ***secretin***
                                  ***receptor*** ligand in a medicament for
TI
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IN
     Davis R J; Page K J
PA
      (PHAR-N)
                PHARMAGENE LAB LTD.
PΙ
     WO 2002002134 A1 20020110
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PRAI GB 2000-16441
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DESC GAPDH forward primer.
     ANSWER 45 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
L14
AN
     AAI72388 DNA
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ΤI
     Use of a
     the treatment of cystic fibrosis -
IN
     Davis R J; Page K J
PΑ
     (PHAR-N)
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PΙ
     WO 2002002134 A1 20020110
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PRAI GB 2000-16441
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DESC
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L14
     ANSWER 46 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
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ΤI
     Use of a ***secretin***
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     Davis R J; Page K J
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              PHARMAGENE LAB LTD.
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PRAI GB 2000-16441
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DT
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LA
     English
os
     2002-171615 [22]
DESC
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L14
     ANSWER 47 OF 65 DGENE COPYRIGHT 2005 The Thomson Corp on STN
AN
     AAI72386 DNA DGENE
TΤ
     Use of a ***secretin***
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IN
     Davis R J; Page K J
PΑ
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               PHARMAGENE LAB LTD.
PΙ
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AΤ
     WO 2001-GB2989 20010704
PRAI GB 2000-16441
                        20000704
DT
     Patent
LA
     English
OS
     2002-171615 [22]
DESC
       ***Secretin***
                       ***receptor***
                                       forward primer.
L14 ANSWER 48 OF 65
                      GENBANK.RTM. COPYRIGHT 2005 on STN
LOCUS (LOC):
                     AR567815
                                GenBank (R)
GenBank ACC. NO. (GBN): AR567815
GenBank VERSION (VER): AR567815.1 GI:53985692
CAS REGISTRY NO. (RN): 760797-68-0
SEQUENCE LENGTH (SQL): 21
MOLECULE TYPE (CI): DNA; linear
DIVISION CODE (CI):
                     Patent
DATE (DATE):
                     8 Oct 2004
DEFINITION (DEF):
                    Sequence 9 from patent US 6780839.
SOURCE:
                    Unknown.
ORGANISM (ORGN):
                    Unknown.
                     Unclassified
REFERENCE:
                    1 (bases 1 to 21)
                   Davis,R.J.; Page,K.J.
  AUTHOR (AU):
  TITLE (TI):
                     Use of ***secretin*** - ***receptor*** ligands in
                     treatment of cystic fibrosis (CF) and ***chronic***
                       ***obstructive*** ***pulmonary***
                                                             ***disease***
                     (COPD)
  JOURNAL (SO):
                     Patent: US 6780839-A 9 24-AUG-2004;
FEATURES (FEAT):
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                Location
                                       Qualifier
source
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                                    /mol-type="genomic DNA"
SEQUENCE (SEQ):
    1 agcaaggcac caccttgcgc a
L14 ANSWER 49 OF 65
                       GENBANK.RTM. COPYRIGHT 2005 on STN
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LOCUS (LOC):
                       AR567814
                                    GenBank (R)
GenBank ACC. NO. (GBN): AR567814
GenBank VERSION (VER): AR567814.1 GI:53985691
CAS REGISTRY NO. (RN): 760797-67-9
SEQUENCE LENGTH (SQL): 23
MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
DEFINITION (DEF): Sequence 8 from patent US 6780839.
                      Unknown.
SOURCE:
                     Unknown.
 ORGANISM (ORGN):
                      Unclassified
                   1 (bases 1 to 23)
Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
                       treatment of cystic fibrosis (CF) and ***chronic***
                         (COPD)
   JOURNAL (SO):
                       Patent: US 6780839-A 8 24-AUG-2004;
FEATURES (FEAT):
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SEQUENCE (SEQ):
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L14 ANSWER 50 OF 65
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LOCUS (LOC):
                       AR567813
                                  GenBank (R)
GenBank ACC. NO. (GBN): AR567813
GenBank VERSION (VER): AR567813.1 GI:53985690
CAS REGISTRY NO. (RN): 760797-66-8
SEQUENCE LENGTH (SQL): 17
MOLECULE TYPE (CI): DNA; linear
DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
DEFINITION (DEF): Sequence 7 from patent US 6780839.
                      Unknown.
SOURCE:
                     Unknown.
 ORGANISM (ORGN):
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                   1 (bases 1 to 17)
Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
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                         ***obstructive*** ***pulmonary***
                                                                 ***disease***
                       (COPD)
   JOURNAL (SO):
                      Patent: US 6780839-A 7 24-AUG-2004;
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                                         Qualifier
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source
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                                      /mol-type="genomic DNA"
SEQUENCE (SEQ):
     1 gaacgcggcg ctagaca
L14 ANSWER 51 OF 65
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LOCUS (LOC):
                      AR567812
                                   GenBank (R)
GenBank ACC. NO. (GBN): AR567812
GenBank VERSION (VER): AR567812.1 GI:53985689
CAS REGISTRY NO. (RN): 760797-65-7
SEQUENCE LENGTH (SQL): 20
MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent DATE (DATE): 8 Oct 2004
                     8 Oct 2004
DEFINITION (DEF):
                     Sequence 6 from patent US 6780839.
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SOURCE:
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 ORGANISM (ORGN):
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Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
                      treatment of cystic fibrosis (CF) and ***chronic***
                        (COPD)
   JOURNAL (SO):
                      Patent: US 6780839-A 6 24-AUG-2004;
FEATURES (FEAT):
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SEQUENCE (SEQ):
     1 tttggtcgta ttgggcgcct
L14 ANSWER 52 OF 65
                       GENBANK.RTM. COPYRIGHT 2005 on STN
LOCUS (LOC):
                      AR567811
                                 GenBank (R)
GenBank ACC. NO. (GBN): AR567811
GenBank VERSION (VER): AR567811.1 GI:53985688
CAS REGISTRY NO. (RN): 760797-64-6
SEQUENCE LENGTH (SQL): 22
MOLECULE TYPE (CI): DNA; linear
DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
DEFINITION (DEF): Sequence 5 from patent US 6780839.
SOURCE:
                     Unknown.
                    Unknown.
 ORGANISM (ORGN):
                     Unclassified
                  1 (bases 1 to 22)
Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
                     treatment of cystic fibrosis (CF) and ***chronic***
                        ***obstructive*** ***pulmonary***
                                                              ***disease***
                      (COPD)
   JOURNAL (SO):
                     Patent: US 6780839-A 5 24-AUG-2004;
FEATURES (FEAT):
                Location
 Feature Key
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SEQUENCE (SEQ):
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L14 ANSWER 53 OF 65
                      GENBANK.RTM. COPYRIGHT 2005 on STN
LOCUS (LOC):
                     AR567810
                                 GenBank (R)
GenBank ACC. NO. (GBN): AR567810
GenBank VERSION (VER): AR567810.1 GI:53985687
CAS REGISTRY NO. (RN): 760797-63-5
SEQUENCE LENGTH (SQL): 22
MOLECULE TYPE (CI): DNA; linear
DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
DEFINITION (DEF): Sequence 4 from patent US 6780839.
SOURCE: Unknown.
                    Unknown.
ORGANISM (ORGN): Unknown.
Unclassified
REFERENCE:
                     1 (bases 1 to 22)
                AUTHOR (AU):
  TITLE (TI):
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                                                             ***disease***
                      (COPD)
  JOURNAL (SO):
                      Patent: US 6780839-A 4 24-AUG-2004;
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GenBank ACC. NO. (GBN): AR567809
GenBank VERSION (VER): AR567809.1 GI:53985686
CAS REGISTRY NO. (RN): 760797-62-4
SEQUENCE LENGTH (SQL): 24
MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
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ORGANISM (ORGN): Unknown.
SOURCE:
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                 1 (bases 1 to 24)
Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
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                        ***obstructive*** ***pulmonary***
                                                              ***disease***
                      (COPD)
   JOURNAL (SO):
                     Patent: US 6780839-A 3 24-AUG-2004;
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L14 ANSWER 55 OF 65
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LOCUS (LOC):
                     AR567808
                                 GenBank (R)
GenBank ACC. NO. (GBN): AR567808
GenBank VERSION (VER): AR567808.1 GI:53985685
CAS REGISTRY NO. (RN): 760797-61-3
SEQUENCE LENGTH (SQL): 20
MOLECULE TYPE (CI): DNA; linear
DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
DEFINITION (DEF): Sequence 2 from patent US 6780839.
SOURCE: Unknown
SOURCE:
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 ORGANISM (ORGN): Unknown.
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REFERENCE:
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                  Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
  AUTHOR (AU):
   TITLE (TI):
                       ***obstructive*** ***pulmonary***
                                                             ***disease***
                      (COPD)
   JOURNAL (SO):
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L14 ANSWER 56 OF 65
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                      AR567807
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GenBank VERSION (VER): AR567807.1 GI:53985684
CAS REGISTRY NO. (RN): 760797-60-2
SEQUENCE LENGTH (SQL): 22
MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent
DATE (DATE): 8 Oct 2004
DEFINITION (DEF): Sequence 1 from patent US 6780839.
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SOURCE:
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 ORGANISM (ORGN):
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Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
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   JOURNAL (SO):
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L14 ANSWER 57 OF 65
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LOCUS (LOC):
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                                 GenBank (R)
GenBank ACC. NO. (GBN): AX348122
GenBank VERSION (VER): AX348122.1 GI:18614226
CAS REGISTRY NO. (RN): 392536-17-3
SEQUENCE LENGTH (SQL): 21
MOLECULE TYPE (CI): DNA; linear
DIVISION CODE (CI): Patent
DATE (DATE): 6 Feb 2002
DEFINITION (DEF): Sequence 9 from Patent WO0202134.
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                     synthetic construct.
ORGANISM (ORGN): Synthetic construct
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NUCLEIC ACID COUNT (NA): 6 a 8 c 5 g 2 t
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Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
  AUTHOR (AU):
  TITLE (TI):
                     treatment of cystic fibrosis (CF) and ***chronic***
                       ***obstructive*** ***pulmonary***
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                      (COPD)
  JOURNAL (SO):
                      Patent: WO 0202134-A 9 10-JAN-2002; Pharmagene
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FEATURES (FEAT):
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L14 ANSWER 58 OF 65
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LOCUS (LOC):
                                 GenBank (R)
GenBank ACC. NO. (GBN): AX348121
GenBank VERSION (VER): AX348121.1 GI:18614225
CAS REGISTRY NO. (RN): 392536-16-2
SEQUENCE LENGTH (SQL): 23
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MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent
DATE (DATE): 6 Feb 2002
DEFINITION (DEF): Sequence 8 from Patent WO0202134.
SOURCE:
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 ORGANISM (ORGN): synthetic construct
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NUCLEIC ACID COUNT (NA): 3 a 5 c 6 g 9 t
            1 (sites)

J): Davis,R.J.; Page,K.J.

Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
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   TITLE (TI):
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   JOURNAL (SO):
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SEQUENCE (SEO):
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L14 ANSWER 59 OF 65
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GenBank VERSION (VER): AX348120.1 GI:18614224
CAS REGISTRY NO. (RN): 392536-15-1
SEQUENCE LENGTH (SQL): 17
MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent
DATE (DATE): 6 Feb 2002
DEFINITION (DEF): Sequence 7 from Patent WO0202134.
SOURCE:
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: Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
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   TITLE (TI):
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                                                               ***disease***
                      (COPD)
   JOURNAL (SO):
                     Patent: WO 0202134-A 7 10-JAN-2002; Pharmagene
                     Laboratories Ltd (GB)
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GenBank ACC. NO. (GBN): AX348119
GenBank VERSION (VER): AX348119.1 GI:18614223
CAS REGISTRY NO. (RN): 392536-14-0
SEQUENCE LENGTH (SQL): 20
MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI): Patent
DATE (DATE):
                     6 Feb 2002
DATE (DATE): 6 Feb 2002
DEFINITION (DEF): Sequence 6 from Patent WO0202134.
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SOURCE:
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1 Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
                     treatment of cystic fibrosis (CF) and ***chronic***
                         ***disease***
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   JOURNAL (SO):
                       Patent: WO 0202134-A 6 10-JAN-2002; Pharmagene
                       Laboratories Ltd (GB)
FEATURES (FEAT):
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CAS REGISTRY NO. (RN): 392536-13-9
SEQUENCE LENGTH (SQL): 22
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DIVISION CODE (CI): Patent
DATE (DATE): 6 Feb 2002
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SOURCE:
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NUCLEIC ACID COUNT (NA): 7 a 5 c 6 g 4 t
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Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
                     treatment of cystic fibrosis (CF) and ***chronic***
                        ***obstructive*** ***pulmonary***
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   JOURNAL (SO):
                     Patent: WO 0202134-A 5 10-JAN-2002; Pharmagene
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DIVISION CODE (CI): Patent
DATE (DATE): 6 Feb 2002
DEFINITION (DEF): Sequence 4 from Patent WO0202134.
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REFERENCE:
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                      Davis,R.J.; Page,K.J.
Use of ***secretin*** - ***receptor*** ligands in
   AUTHOR (AU):
   TITLE (TI):
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                         Patent: WO 0202134-A 4 10-JAN-2002; Pharmagene
   JOURNAL (SO):
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DATE (DATE): 6 Feb 2002
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NUCLEIC ACID COUNT (NA): 1 a 8 c 7 g 8 t
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1 (sites)
1 Davis,R.J.; Page,K.J.
1 Use of ***secretin*** - ***receptor*** ligands in
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
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                         (COPD)
   JOURNAL (SO):
                       Patent: WO 0202134-A 3 10-JAN-2002; Pharmagene
                        Laboratories Ltd (GB)
FEATURES (FEAT):
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DIVISION CODE (CI): Patent
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NUCLEIC ACID COUNT (NA): 2 a 8 c 4 g 6 t
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1 (sites)
1 Davis,R.J.; Page,K.J.
2 Use of ***secretin*** - ***receptor*** ligands in force of cvstic fibrosis (CF) and ***chronic***
REFERENCE:
   AUTHOR (AU):
   TITLE (TI):
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obstructive ***pulmonary*** ***disease***

(COPD)

JOURNAL (SO): Patent: WO 0202134-A 2 10-JAN-2002; Pharmagene

Laboratories Ltd (GB)

FEATURES (FEAT):

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CAS REGISTRY NO. (RN): 392536-09-3

SEQUENCE LENGTH (SQL): 22

MOLECULE TYPE (CI): DNA; linear DIVISION CODE (CI):

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DATE (DATE): 6 Feb 2002
DEFINITION (DEF): Sequence 1 from Patent WO0202134.

SOURCE: synthetic construct. ORGANISM (ORGN): synthetic construct artificial sequence

NUCLEIC ACID COUNT (NA): 6 a 6 c 6 g 4 t

REFERENCE: 1 (sites)

AUTHOR (AU): Davis,R.J.; Page,K.J.

TITLE (TI): Use of ***secretin*** - ***receptor*** ligands in

treatment of cystic fibrosis (CF) and ***chronic*** ***obstructive*** ***pulmonary*** ***disease***

(COPD)

JOURNAL (SO): Patent: WO 0202134-A 1 10-JAN-2002; Pharmagene

Laboratories Ltd (GB)

FEATURES (FEAT):

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